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ABSTRACT

Disparities in funding for education have resulted in lawsuits in more than 40 states since 1970. To better understand states' accomplishments in equalizing educational funding, the Government Accounting Office (GAO) examined factors surrounding funding gaps between poor and wealthy school districts. The GAO's analysis included every state except Hawaii and was based on 1991-92 school year data. A phone survey of states showed that half of them reported little or no changes in their finance system. The GAO limited its research on states that did change finance systems to Kansas, Rhode Island, and Louisiana and conducted its work between November 1996 and May 1998. It was found that two key factors reduced the size of the funding gap between poor and wealthy districts: (1) the extent to which a state's poor districts make a greater tax effort than the wealthy districts; and (2) a state's effort to compensate for differences in district wealth through its equalization policies. Concerning these two factors, the study demonstrates that the larger tax effort of poor districts compared with that of wealthy districts contributed more to reducing funding gaps than did state equalization efforts in school year 1991-92. Seven appendices detail study methodology, data, and other information. (RJM)

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United States General Accounting Office

GAO

Report to Congressional Requesters

June 1998

SCHOOL FINANCE

State Efforts to Equalize Funding Between Wealthy and Poor School Districts

ED 424 663

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GAO

United States
General Accounting Office
Washington, D.C. 20548

Health, Education, and
Human Services Division

B-278363

June 16, 1998

The Honorable Jeff Bingaman
The Honorable Christopher Dodd
The Honorable Carol Moseley-Braun
United States Senate

Children from poor families or living in poor neighborhoods have less chance of succeeding in school. In addition, poor communities often lack the tax base to provide enough revenue for their education programs, even with high tax rates. To compensate for the adverse effects of poverty on student achievement, the federal government has funded title I and other education services for low achievers in poor areas through specially targeted programs. This federal effort supplements the much larger role that state and local governments play.

Many states recognize the high cost of educating poor students and the struggle of poor districts to adequately fund the needs of those students. In a recent report[1] done at your request, we examined how state and federal governments target money to poor students. All types of districts, however, have poor students—districts with little taxable wealth (poor districts) as well as those with much taxable wealth (wealthy districts). Therefore, you asked us to review how well state funding is targeted to poor school districts. This report responds to your request.

This report was prepared under the direction of Carlotta C. Joyner, Director, Education and Employment Issue Area, who may be reached at (202) 512-7014 if you or your staff have any questions. Other major contributors to this report are listed in appendix VII.

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[1]School Finance: State and Federal Efforts to Target Poor Students (GAO/HEHS-98-36, Jan. 28, 1998).

Executive Summary

Purpose

Disparities in funding for education between poor and wealthy districts—known as funding gaps—have resulted in lawsuits in more than 40 states since 1970 that have challenged the constitutionality of state finance systems. Most school funding is provided by states and localities. Local school districts, however, differ inherently in the amount of local funding they can raise because they vary in the (1) value of property or other wealth they are allowed to tax and (2) willingness of residents to tax themselves to support education. Because of the wide variations in local funding, most states provide funds that help reduce these funding gaps. Even after accounting for state funding, however, wealthy districts, on average provide 24 percent more funding per pupil than poor districts. This occurs even though people in most poor districts tax themselves at higher rates than those in wealthy districts.

States play the leading role in equalizing funding among school districts. The federal government plays a more limited role using incentives provided in the Improving America's Schools Act of 1994 to encourage states to equalize funding. To better understand states' accomplishments in equalizing educational funding among school districts, several senators asked GAO to address the following questions: (1) What factors contribute most to reducing the size of the funding gaps between poor and wealthy school districts? (2) How have funding gaps between poor and wealthy districts been affected in states that have recently changed their approach to providing state equalization aid? and (3) What kinds of changes are needed for states to more fully address these funding gaps?

Background

The United States has about 16,000 school districts, and most raise local funds for education through property taxes. Disparities in funding due to wide variations in districts' ability to raise revenue have led to lawsuits challenging the constitutionality of school finance systems in more than half of the states since 1990. In many states, courts have declared that these finance systems violate the state constitution and have directed legislatures to make funding more equitable, that is, to equalize funding. In the process, although specific requirements have varied, many courts have thus defined an equitable education as well as set guidelines for improving state finance systems.

Although states have played the leading role in equalizing school funding, the federal government has encouraged more equalized funding among a state's school districts through two programs of the Improving America's Schools Act of 1994. The first program, the title VIII Impact Aid program,

allows states to reduce funding to districts that receive impact aid if the state has been certified by the Department of Education as achieving a certain degree of equity. The second program, the title I Education Finance Incentive program, allocates a portion of the title I appropriation on the basis of state fiscal effort and funding equity.[2] This provision, however, has not yet been funded.

The incentive structure in both federal programs uses performance measures that focus on the size of funding gaps, not on state efforts to equalize funding. The Congress has become increasingly concerned with measuring the results of federal programs, a recent example of which is its passage of the Government Performance and Results Act. One of the Results Act's most important features is the incorporation of performance measurement. Leading organizations recognize that performance measures can create powerful incentives to influence organizational and individual behavior.

Federal funds help narrow the funding gap because they are targeted to poor students, some of whom live in poor districts. As GAO reported in its study of targeting to poor students, although federal dollars make up only about 7 percent of the total national funding for elementary and secondary education, the effect of adding federal funds to state funds increased the targeting of funds to poor students by 77 percent. Moreover, about 64 percent of the nation's poor children attended public schools in 21 states that had significant funding gaps between poor and wealthy districts, according to this study. To the extent that poor students live in poor districts, this targeting to poor students helps to reduce the effect of tax base disparities among school districts.

GAO's analysis of state efforts to equalize education funding included every state except Hawaii[3] and was based on 1991-92 school year data, the most recent year for which national data were available. A phone survey of states showed that half of them reported little or no changes to their

[2]The Department of Education defines fiscal effort as education spending as a percentage of per capita income; funding equity is measured by computing the variation in per pupil expenditures across school districts.

[3]Hawaii was excluded because the GAO analysis compares funding among districts within a state, and Hawaii has only one school district.

finance systems.[4] GAO's analysis of changes in state finance systems focused on four states (Oregon, Kansas, Rhode Island, and Louisiana), using state-reported data for school years 1991-92 and 1995-96. GAO chose these states because they represent a wide variety of school finance approaches.

GAO conducted its work between November 1996 and May 1998 in accordance with generally accepted government auditing standards.

Results in Brief

Two key factors help reduce the size of the funding gap between poor and wealthy districts: (1) the extent to which a state's poor districts make a greater tax effort than the wealthy districts and (2) a state's effort to compensate for differences in district wealth through its equalization policies. Poor districts in most states made a greater tax effort than the wealthy districts, according to our research. Characterizing state equalization efforts is much more complex, however, than analyzing districts' tax efforts. A state's equalization effort consists of two parts: the proportion of education funding financed by the state government (state share) and the degree to which states target funds to poor districts. Of these two, state share has more impact on state equalization policies. In effect, equalization policies determine the extent to which a state enables its districts to provide the state average funding level when all districts make an equal tax effort. The most equalized school finance system would enable districts' per pupil funding to be 100 percent of the state's average per pupil funding for an equal tax effort in all districts. GAO determined the equalization effort of 49 states in school year 1991-92. The average state equalization effort was 62 percent, according to GAO's analysis. States ranged from a high of 87 percent in Arkansas and Kentucky to a low of about 13 percent in New Hampshire.

Increased equalization effort in the four states GAO reviewed in detail showed mixed results in reducing funding gaps between poor and wealthy districts. After revising their school finance systems, both Oregon and Kansas reduced the funding gap between poor and wealthy districts. In contrast, Louisiana's funding gaps increased and Rhode Island's stayed about the same because changes in the local tax effort offset a greater state equalization effort.

[4]GAO surveyed 49 states to assess what changes had taken place in state funding and federal funding from school years 1991-92 to 1995-96. Thirty-one states reported no changes in targeting that resulted in providing more funds to high-poverty districts. Thirty-six states reported little or no change in the state's share of education funding, another factor that could affect funding equalization. For details, see appendixes LIV and LV in School Finance: State and Federal Efforts to Target Poor Students (GAO/HEHS-98-36, Jan. 28, 1998).

To more successfully address funding gaps, most states would have to increase state equalization effort and impose some constraints on local tax efforts. The amount of money required to reduce these funding gaps and the type of constraints needed depend on the degree to which a state may want to reduce the gap and the degree to which a state wants to equalize the local tax burden among districts. In any case, substantial reductions in funding gaps would require sizeable funding increases in many states. Oregon, for example, reduced the gap largely because it increased the state share of education funding by roughly three-fourths. Many states would have to make changes of this magnitude to achieve similar results.

States intervening to reduce funding gaps between poor and wealthy districts face difficult choices about controlling local tax behavior and equalization effort. Among the most difficult are politically sensitive decisions about local tax choice—whether to leave it unconstrained or to require specific local behaviors (maintenance of effort, equal tax effort, or a minimum tax effort). The easiest choice is not to control local tax behavior, but this may undermine equalization efforts. GAO found that without constraints on local funding, districts in Louisiana and Rhode Island adjusted their tax effort in a way that undermined increases in the state's equalization effort. In Louisiana, the funding gaps actually worsened; in Rhode Island, they stayed about the same. Regarding equalization effort, a state could choose to increase its share of total education funding, increase its targeting effort so that state aid would favor poor districts to a greater extent, or increase both. Relying mainly on increasing its share of total funding would allow a state to bear most costs involved with increasing equalization effort. Relying instead on increased targeting shifts some of the costs to wealthier districts. This is because without increasing state share, wealthy districts would get less money from the state and might have to contribute locally raised revenue to the state for redistribution to poor districts.

Principal Findings

Local Tax and State Equalization Efforts Affect Funding Gaps

Of the two key factors affecting funding gaps—local tax effort and state equalization effort—GAO's data analysis demonstrates that the larger tax effort of poor districts compared with that of wealthy districts contributed more to reducing funding gaps than did state equalization efforts in school year 1991-92. Poor districts made a much greater tax effort than wealthy

districts. Differences in poor and wealthy districts' tax efforts result from district residents' tax choices, which may be affected by state and local policies governing these choices. In 35 states, poor districts made a greater tax effort than wealthy districts. In nine of these states, this greater effort helped close the funding gap; three states—Iowa, Kansas, and Wyoming—achieved this result with an equalization effort that was less than the national average. In the remaining 26 states, however, the poorer districts' greater tax efforts could not offset wealthier districts' funding advantage. Poor districts' extra effort ranged from 106 percent as much as wealthy districts in Delaware to over four times as much in Wyoming (417 percent).

States can apply an infinite combination of state shares and targeting policies to achieve a certain level of equalization effort. Although the average state equalization effort was 62 percent of what was possible in school year 1991-92—states ranged from a high of 87 percent in Arkansas and Kentucky to a low of about 13 percent in New Hampshire—state equalization efforts overall still helped to reduce the funding gaps, according to GAO's analysis.

Changes in Equalization Policy Produced Mixed Results in Four States Studied

GAO studied four states that reported changing their school finance systems between school years 1991-92 and 1995-96. These states increased the proportion of state funding or targeting to poorer districts and made changes to their finance system that affected local districts' tax effort. The funding gaps among districts declined in Oregon and Kansas, widened in Louisiana, and stayed about the same in Rhode Island.

In Oregon, voters mandated statewide property tax relief and established a maximum tax rate for district operating revenue. This decreased local funding, particularly for wealthy districts. The state reacted by increasing its share of education funding from 30 to 59 percent. Part of the increase in state funding offset the resulting reduction in all districts' local revenue. The poorest districts, however, had a greater increase in total revenue than the wealthiest districts. Consequently, the funding gap between poor and wealthy districts declined.

In Kansas, the legislature set a statewide property tax rate for financing districts' base budgets. In addition, the state increased its share of total funding from 42 percent in school year 1991-92 to 59 percent in school year 1995-96. The mandated property tax rate provided tax relief in most districts, while raising tax rates for some of the wealthiest districts where

the mandated tax rate increased the amount of local revenue raised. To keep disparities in funding among districts from growing larger as a result, the state also capped the amount of local funding the wealthiest districts could keep and redistributed excess local revenue to less wealthy districts. As a result of these steps, Kansas succeeded in reducing the funding gap.

Louisiana increased its equalization effort by targeting more state funding to poorer districts. Rhode Island did so by slightly increasing the state share of education funding. The funding gap between poor and wealthier districts, however, did not decrease in these states in part because additional state funding provided poor districts with an opportunity to reduce relatively high tax rates compared with those of the wealthy districts. In addition, wealthier districts in Louisiana raised local taxes more than enough to replace what they had lost in state funding.

Reducing the Funding Gap Would Require States to Make Difficult Choices

Any enhancement of a state's equalization effort would tend to improve access to funding in poor districts because it would increase the amount of total (state and local) funding available for their tax effort. The experiences of the four case study states, however, indicate that increased equalization efforts alone may not be enough to reduce funding gaps. Without constraints on local tax efforts, increases in states' equalization efforts may prompt districts to adjust their tax effort in a way that undermines the equalization effort. As in Louisiana, funding gaps may actually worsen with an increased equalization effort.

As a result, states would probably have to enact policies that present significant political and budgetary challenges. Because poorer districts may offset gains in state aid by reducing their tax effort and wealthier districts may offset losses in state aid by increasing theirs, states may need to consider whether their effort to reduce funding gaps should include constraints on local tax choices. Such constraints could include mandating districts to maintain their existing (and often unequal) tax effort or mandating districts to equalize their tax efforts.

Regardless of which tax constraint a state might choose, a state wanting to reduce its funding gap would need to increase its equalization effort—either by increasing state share, increasing state targeting, or increasing both. An increased equalization effort combined with a tax constraint that equalized tax efforts among districts would be the most costly approach to reducing funding gaps, according to GAO's analysis. An increased equalization effort combined with a tax constraint that maintained existing

efforts would also be costly, however. For example, GAO's analysis of this second approach using school year 1991-92 funding data revealed that to eliminate funding gaps given the state shares of total funding that year, half the states would have had to increase their targeting by at least 200 percent. Alternatively, if states held their targeting steady, half would have had to increase their share of funding by about 50 percent.

To encourage states to increase their equalization efforts, federal programs could measure the strength of the state's equalization effort in reducing the funding gap rather than just measuring the size of the funding gap. Measuring the size of funding gaps alone might reward states whose funding gaps are small because poor districts made an extraordinary tax effort rather than because the state made a substantial equalization effort. Federal policy could use performance measures that focus explicitly on a state's equalization effort in addition to, or in place of, measures focusing on funding gaps.

Matter for Congressional Consideration

If the federal government wants to encourage greater state equalization effort to reduce funding gaps between poor and wealthy districts, then the Congress may wish to consider establishing additional incentives or incentives different from those that federal programs now have.

Agency Comments

The Department of Education provided written comments on a draft of this report. The Department said that this report provides important information on how well state funding is targeted to poor school districts. It also suggested several specific changes to improve accuracy, which GAO made as appropriate. A copy of these comments appears in appendix VI.

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Abbreviations

BESE	Board of Elementary and Secondary Education
CCD	Common Core of Data
ESEA	Elementary and Secondary Education Act of 1965
EWAV	equalized weighted assessed valuation
LOB	local option budget
NCES	National Center for Education Statistics

Introduction

School districts differ inherently in the amount of local funding they can raise because they vary in the value of property or other wealth they are allowed to tax and in the willingness of residents to tax themselves to support education. States play the leading role in equalizing funding among school districts by providing aid that helps reduce these funding gaps. The federal government plays a more limited, indirect role by targeting federal funding to poor students and by encouraging states through the use of incentives in the Improving America's Schools Act of 1994 to equalize funding among their school districts.

Background

The federal government's main role in elementary and secondary education since the 1960s has been to target federal funding toward services for educationally disadvantaged children through categorical, program-specific grants. The largest single federal elementary and secondary education grant program, which began in 1965, is title I of the Elementary and Secondary Education Act. This program continues to serve educationally disadvantaged children through program-specific grants. The fiscal year 1997 appropriation for the disadvantaged was $7.3 billion.

The federal role in funding elementary and secondary education has traditionally been limited, however, with state and local governments providing most funding. The federal government funds only about 7 percent of total national education funding, with states and local governments funding nearly an equal share of the remaining funding. Individual states' share of funding, however, varies considerably. State contributions in the 1991-92 school year ranged from 8 percent of total (state and local) funding in New Hampshire to 85 percent of total funding in New Mexico.

The federal government does target funds to disadvantaged and poor students. As we reported in our study of targeting to poor students,[5] although federal dollars make up only a small part of total national funding of elementary and secondary education, the effect of adding federal funds to state funds increased the targeting of funds to poor students by 77 percent in school year 1991-92. Moreover, 64 percent of poor children attended public schools in 21 states that had significant funding gaps

[5]School Finance: State and Federal Efforts to Target Poor Students (GAO/HEHS-98-36, Jan. 28, 1998).

between poor and wealthy districts, according to our study.[6] To the extent that poor students live in poor districts, federal funds help to reduce the effect of tax base disparities among districts. Although the number of poor students in a district tends to increase as district wealth declines, the increase is not great.[7]

States' ability to fund education can vary considerably, depending on states' income levels, the number of children enrolled in public school, and the number of children requiring additional services, such as special programs for disabled or poor children. States with higher income levels can afford to finance higher levels of education funding per pupil. In the 1991-92 school year, states' average income per weighted pupil ranged from $41,385 in Utah to $160,761 in New Jersey. States' numbers of poor students or those with disabilities that require additional educational needs vary widely. For example, the rate of student poverty ranged from about 33 percent in Mississippi to about 6 percent in New Hampshire in 1990.[8]

In addition, localities' ability to raise funding for education varies widely. Among the nation's almost 16,000 school districts, most receive local funds for education mainly through property taxes and, to a lesser extent, through local sales and income taxes. This reliance on the local property tax to raise revenue, coupled with large differences in local tax base wealth, accounts for relatively large funding gaps between wealthy and poor districts. Localities with low tax base wealth usually have low funding per pupil even with high tax rates; localities with high property values have high funding per pupil even with low tax rates.

Since the 1970s, these funding disparities have resulted in lawsuits in more than 40 states challenging the constitutionality of the state school finance system. More than half of the state systems have been challenged in court since 1990; in almost half of these cases, states have subsequently implemented changes designed to make the finance system more equitable.

[6]The 21 states were Alabama, California, Connecticut, Illinois, Indiana, Iowa, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Virginia, West Virginia, and Wisconsin.

[7]Nationally, the simple correlation between district wealth measured by income per pupil and adjusted for differences in geographic cost within the state and the number of poor students in a district was −.24 in school year 1991-92.

[8]School Finance: Trends in U.S. Education Spending (GAO/HEHS-95-235, Sept. 15, 1995).

In contrast to the federal commitment to funding services for educationally disadvantaged children, the federal government has played only a small part in encouraging states to develop equitable finance systems. Federal policy encouraging states to equalize their finance systems appears in two programs of the Improving America's Schools Act of 1994, which reauthorized the Elementary and Secondary Education Act of 1965 (ESEA). Both programs use performance indicators focusing only on the size of funding gaps and not on a state's effort to equalize funding among districts.

The first program, title VIII Impact Aid, allows states that the Secretary of Education certifies as meeting an equity in education funding standard to take steps to prevent impact aid payments to local school districts from undermining state equalization efforts.[9] This provision is intended to prevent impact aid from hindering states' equalization efforts and duplicative compensation of school districts affected by federal activity (once by the federal government through impact aid and a second time by the state's equalization program). The effect of the provision is to encourage states to equalize education funding. States that do not pass the equalization test may not consider impact aid payments as local revenue in determining state funding.

The second program, the title I Education Finance Incentive program, has not yet been funded but would award additional federal money to states depending on the degree of fiscal effort[10] and funding equity achieved. Supporters of this program suggest that if a state's spending for education increases and spending disparities among a state's districts decrease, title I funds can be more effectively allocated to provide disadvantaged children the additional resources they need. As noted earlier, in our report on targeting to poor students, 64 percent of poor students attended public schools in 21 states with significant funding gaps in school year 1991-92.

[9]A Department of Education official reported that the school finance systems of three states were certified as equitable for school year 1995-96. As a result, these states could consider federal impact aid payments to affected school districts as local revenue and could reduce the state aid entitlements in these districts accordingly. In 1997, $615.5 million was appropriated for impact aid Basic Support Payments (sec. 8003(b)) and $17.5 million was appropriated for Federal Property (sec. 8002). These funds compensate school districts for either a loss of tax revenues due to federal property tax exemptions or increased costs due to federal activity. These activities would include the additional cost to educate high concentrations of children of federal employees such as children of parents that work on or near a military installation.

[10]That is, high state spending relative to the state's ability to pay.

Objectives

The objectives of this study were to (1) determine what factors contribute most to reducing the size of funding gaps[11] between poor and wealthy school districts, (2) identify states that substantially changed their school finance systems between school years 1991-92 and 1995-96 and determine the effects of such changes on the funding gaps between wealthy and poor districts, and (3) determine the kinds of changes needed for states to more fully address these funding gaps.

Scope and Methodology

To determine the factors contributing most to reducing funding gaps nationwide, we conducted state-level comparative analyses of states' equalization efforts (the state share of funding and how this funding was targeted to poor school districts), the local tax effort of poor and wealthy districts, and the size of the income-related funding gap between poor and wealthy districts in the 1991-92 school year, the most recent year for which a national data set of districts was available. Our analyses included all states except Hawaii.[12] Analyses of state targeting of funds, local tax efforts, and income-related funding gaps accounted for statewide differences in student need and geographic costs.

Our national analysis of the factors leading to reduced funding gaps among districts used district resident income per weighted pupil to measure district ability to fund education from local resources. We did not use property wealth per pupil, the measure states use most often to determine a district's aid allocation, because we could not devise a property value per pupil measure from the national district-level databases available.

To determine the effect of finance reforms on the funding gaps between poor and wealthy districts, we studied four states that reported changing their school finance systems between school years 1991-92 and 1995-96: Oregon, Kansas, Louisiana, and Rhode Island. We chose these states because of their considerably different approaches to finance reform.

[11]Policymakers and researchers have also been concerned about the adequacy of educational resources. Education funding is termed adequate if it enables each student to achieve a minimum level of academic performance. Not much is known, however, about the level of funding needed to achieve a certain level of performance. As a result, determining an adequate level of funding for a district is difficult.

[12]We eliminated Hawaii from the analysis because our source of data was a database used for a previous report for which we conducted a district-level analysis. Hawaii's school system is considered one district, so no comparisons could be made about state allocations to different districts. Similarly, the District of Columbia and five U.S. territories (American Samoa, Guam, Northern Marianas, Puerto Rico, and the Virgin Islands) have one-district systems and were not included as part of the database. The previous report using this database was School Finance: State Efforts to Reduce Funding Gaps Between Poor and Wealthy Districts (GAO/HEHS-97-31, Feb. 5, 1997).

State officials provided information on changes in state laws made to implement these reforms.

For each of the four states, we analyzed how changes to state equalization policies and constraints on local tax effort may have affected both the relative tax effort of poor and wealthy districts and the size of funding gaps from school years 1991-92 to 1995-96. To calculate district wealth, we largely relied on the definition of a district's tax base provided by state education officials. For Oregon, Kansas, and Rhode Island, we calculated district tax base using property wealth. For Louisiana, we calculated the tax base using a combination of district property wealth and sales tax revenues. See appendix III for a detailed discussion on property wealth measures in these states. In addition, we met with several state and local officials to gain a better understanding of the policies that led to changes in equalization effort. A complete list of the officials we interviewed appears in appendix V.

To determine the changes in state funding and tax base targeting policies that would be needed to close the income-related funding gaps between poor and wealthy districts, we used a mathematical model that relates state equalization effort and local tax policies to the size of the funding gaps.[13] Our analysis estimates the amount that a state's share of total funding or targeting effort would have to increase to completely eliminate rather than just reduce funding gaps among districts. We conducted this analysis under alternative assumptions—assuming districts maintained school year 1991-92 tax effort or assuming districts all made the same effort—of how states could constrain local tax policy if they were willing to do so. Appendix IV provides details of the mathematical model used for this analysis.

Data Sources

This report used two data sources. For the national state-level analyses, we used a database we developed for a previous report[14] that was compiled from the Department of Education's Common Core of Data (CCD) for the 1991-92 school year. We obtained data for per capita income and population from the 1990 census because the CCD did not have this information.

To analyze the change in the funding gap in the four states we studied, we obtained school years 1991-92 and 1995-96 district data on state and local

[13]This was developed in GAO/HEHS-97-31, Feb. 5, 1997.

[14]GAO/HEHS-97-31, Feb. 5, 1997.

funding, tax base wealth, and demographic information directly from each state's department of education or state legislative officials. We conducted our work between November 1996 and May 1998 in accordance with generally accepted government auditing standards.

Extra Tax Effort of Poor Districts and State Equalization Effort Reduce Funding Gaps

Two key factors help reduce states' funding gaps between poor and wealthy districts: (1) the extent to which a state's poor districts make a greater tax effort than its wealthy districts and (2) a state's effort to reduce funding gaps through its equalization policies. Poor districts may make a greater tax effort than wealthy districts in part because residents choose to do so or because state and local policies directly or indirectly lead to an extraordinary tax effort in poor districts. Many states try to lessen the disparities between poor and wealthy districts' tax bases through their equalization policies. Such policies include reducing the reliance on local funding by increasing the overall state share of total funding or targeting state funds to favor poor districts.

Of the two key factors affecting funding gaps, poor districts' extra tax effort was the more important factor in explaining the size of these gaps in school year 1991-92. The most equalized school finance system would enable districts' per pupil funding to be 100 percent of the state's average per pupil funding for an equal tax effort in all districts. We determined the equalization effort of 49 states in school year 1991-92. The average state equalization effort was 62 percent, according to our analysis, suggesting that states could have more impact on the funding gap if they were to strengthen their equalization policies. Poor districts in most states were making a greater tax effort than wealthy districts.

Poor Districts' Greater Tax Effort Helps Reduce Funding Gaps in Most States

Funding gaps exist mainly because wealthy districts can raise more local revenue than poor districts.[15] Poor districts could reduce or even eliminate the funding gaps, however, if they made an extraordinarily high tax effort compared with wealthy districts' efforts. Differences in poor and wealthy districts' tax efforts reflect the varying tax choices of district residents and the tax regulations governing those choices. In school year 1991-92, the tax effort of poor districts in most states exceeded that of wealthy districts and contributed to reducing the funding gap.

[15]We measured the funding gap between poor and wealthy districts by calculating the elasticity of total (state and local) funding per pupil with respect to district tax base wealth measured as district resident income per pupil. An elasticity measures the percentage change in one variable associated with a 1-percent change in a second variable. See "Scope and Methodology" in app. II for further explanation of the income elasticity of total funding. All dollar amounts have been adjusted for within-state differences in geographic and student need-related costs.

Tax Policy and Local Tax Choice Determine the Tax Efforts of Poor and Wealthy Districts

Differences in poor and wealthy districts' tax efforts result from district residents making tax choices that may be affected by their local and state tax policies. In many states, local taxing authorities, such as school district boards, set local tax policy. For example, such authorities may decide autonomously or with voter approval when and how much to raise local property taxes for education. When these authorities seek voter approval, district residents may choose taxes for education by voting for or against property tax rate increases tied to general levies or specific levies such as initiatives to improve school technology.

States also make policies affecting local taxes. Since the 1970s, states have increased their direct control of districts' tax efforts. For example, some states mandate a certain tax rate or impose a minimum or maximum tax rate on districts to ensure that districts contribute a certain share toward their students' education. States concerned about disparities in the funding levels between poor and wealthy districts may influence these tax efforts by financially rewarding less wealthy districts that increase their tax effort or, more rarely, by recapturing some local funding from wealthy districts whose local tax effort raises too much revenue.[16]

Extra Tax Effort of Poor Districts Is Common and Helps Reduce Funding Gaps

Our 49-state analysis shows that poor districts in most states made a greater tax effort than wealthy districts, which contributed to reducing funding gaps.[17] In the 1991-92 school year, the poorest districts in 35 states made a greater tax effort than the wealthiest districts.[18] States whose poorest districts had a greater tax effort compared with the wealthiest districts' had smaller funding gaps (see table 2.1). Alaska, California, and Iowa are examples of such states. States whose poor districts' relative tax efforts were less than wealthier districts, for example, Georgia and Maryland, had much greater funding gaps.

[16]See ch. 3 for examples of these approaches in some of the states we studied.

[17]The simple correlation between state funding gaps nationwide in the 1991-92 school year and their relative local tax efforts was –0.68, indicating that poor districts' greater tax effort was associated with reduced funding gaps.

[18]We ranked all of a state's districts according to increasing district income and then divided these districts into five groups. A state's poorest districts are in the first group and its wealthiest districts are in the fifth group. Each group had about the same number of students. However, in some states, the groups may have differed greatly in their numbers of students because districts could not be divided into smaller units. A group's tax effort is defined as the amount of local revenue raised for $1,000 of income for all districts in the group. Funding data were adjusted to reflect within-state differences in geographic and student need-related costs. For further information on relative local tax effort, see School Finance: State Efforts to Reduce Funding Gaps Between Poor and Wealthy Districts (GAO/HEHS-97-31, Feb. 5, 1997), pp. 53-8.

Table 2.1: Higher Tax Effort by Poor Districts Reduced Funding Gaps, School Year 1991-92

Poor districts' tax efforts compared with wealthy districts[b]	Size of funding gap[a]		
	Large	**Moderate**	**Small/none**
Less than wealthy districts	Georgia Maryland Massachusetts Michigan Missouri New York North Carolina Pennsylvania Rhode Island Virginia	Connecticut Florida Idaho Kentucky	
Somewhat more than wealthy districts	Alabama Illinois Ohio South Dakota	Arkansas Colorado Indiana Louisiana Maine Minnesota New Jersey North Dakota South Carolina Tennessee Wisconsin	Delaware Kansas Oklahoma Texas Washington West Virginia
Much more than wealthy districts (at least 50% greater)	Montana	Arizona Nebraska New Hampshire Oregon Vermont	Alaska California Iowa Mississippi Nevada New Mexico Utah Wyoming

[a]Funding gaps are measured by elasticity of total (state and local) funding per weighted pupil with respect to tax base wealth measured as district resident income per weighted pupil. A value of 0 indicates that no relationship exists between total funding and income—that is, no wealth-related funding gaps exist. Large funding gaps have a score of .25 or greater; moderate gaps have a score of greater than .10 but less than .25; and small (or no) gaps have a score of less than or equal to .10. The analysis was adjusted to account for within-state differences in geographic and student need-related costs.

[b]These categories are based on a ratio of the tax effort of a state's poorest districts to the tax effort of its wealthiest districts. Local tax effort is the local funding per weighted pupil raised for $1,000 of income per weighted pupil.

State Equalization Effort Reduces Funding Gaps

To offset the disparities in district funding levels, many states use equalization policies aimed at reducing funding gaps. Equalization policies have two parts: the state share of total funding and the state effort to target poor districts. Of these two, state share has a larger impact on state

equalization policies. In effect, equalization policies determine the extent to which a state enables its districts to provide the state average funding level when all districts make an equal tax effort. Specifically, a state's equalization effort measures the portion of the state's average funding per pupil that state aid would enable all districts to finance with an equal tax effort.[19] States can apply an infinite combination of state shares and targeting policies to achieve a certain level of equalization effort. Although the average state equalization effort was only 62 percent of the maximum possible effort in school year 1991-92, state equalization efforts overall still helped reduce the funding gaps.

State Share and State Targeting Effort Determine Equalization Effort

The state share of total funding and the state targeting effort determine a state's equalization effort. Increasing the state share of total funding reduces the relative amount of the state's total education funding that depends on district wealth.[20] Holding state share steady but targeting more state funds to poor districts than to wealthy districts offsets the relative disparities in districts' ability to raise revenues.[21] State targeting efforts imply that some wealthy districts may receive no state aid or may remit a certain share of their locally raised revenues to the state, a transaction termed the "recapture" of funds.

As seen in table 2.2, state share has an impact on equalization efforts. According to our analysis, a relatively high state share always produced an above average equalization effort. Even when a state's targeting effort was low, high state shares still resulted in an above average equalization effort.

In contrast, states with low state funding shares generally had targeting policies that substantially favored poor districts. For example, only two of

[19]For every state school finance system, a point exists where if all districts made the same tax effort, they would have the same total funding per pupil. The closer this funding level is to the state's average per pupil funding, the greater the state's equalization effort. The most equalized school finance system would enable districts' per pupil funding to be 100 percent of the average total (state and local) per pupil funding for an equal tax effort. See app. II for a more complete discussion of measuring states' equalization efforts.

[20]Increasing the state share of total state and local funding may involve increasing state education spending. Many states raise revenue through a combination of sales and income taxes. However, revenues from these sources can be more sensitive to cyclical fluctuations of the state economy than property taxes, which are the main source of funding for most U.S. school districts.

[21]State targeting is measured by the income elasticity of state funding, where district income represents the tax base per pupil. The income elasticity is the percentage of difference in state funding resulting from a 1-percent change in district income. In this report, we multiplied the elasticity by 100 to measure the change in state funding associated with a 100-percent change in tax base wealth. See app. II for further explanation of this elasticity. All dollar amounts have been adjusted for within-state differences in geographic and student need-related costs.

the eight states with low state shares also had low targeting efforts (Oregon and South Dakota).[22] None of the eight states had a targeting effort large enough to produce an above average state equalization effort.

Table 2.2: High State Shares More Important Than Targeting Effort to State Equalization Efforts, School Year 1991-92

	State Share[a]		
Targeting effort[b]	Low (less than 35%)	Medium (35% to 60%)	High (greater than 60%)
High (greater than 55%)	New Hampshire	**Colorado** **Florida** **Maryland** **Nevada** **New York** **Rhode Island**	
Medium (15% to 55%)	Illinois Massachusetts Michigan Nebraska Vermont	Arizona Connecticut **Georgia** Kansas **Maine** **Minnesota** Ohio Pennsylvania **South Carolina** **Texas** **Utah** Virginia Wisconsin	**Arkansas** **Kentucky**
Low (less than 15%)	Oregon South Dakota	Indiana Iowa Missouri Montana New Jersey North Dakota Tennessee Wyoming	**Alabama** **Alaska** **California** **Delaware** **Idaho** **Louisiana** **Mississippi** **New Mexico** **North Carolina** **Oklahoma** **Washington** **West Virginia**

Note: States in bold have equalization efforts above the national average (62 percent).

[22]As shown in ch. 3, Oregon has substantially increased its equalization effort since the 1991-92 school year.

[a]State share is the state share of total (state and local) funding.

[b]State targeting is measured by the income elasticity of state funding, where district income represents the tax base per pupil. The income elasticity is the percentage difference in state funding resulting from a 1-percent change in district income. Because both independent and dependent variables are measured relative to their respective state averages, they represent percentage differences from the state averages. In this report, we multiplied the elasticity by 100 to measure the change in state funding from the state average funding level associated with a 100-percent change in tax base wealth from the state average tax base wealth. Thus, a targeting effort of 40 percent means that as district income increased by 100 percent, state funding decreased by 40 percent, where the changes in funding and income are measured relative to their state average.

Varying Combinations of State Share and Targeting Effort Can Achieve the Same Equalization Effort

Although state share has more impact on closing funding gaps than targeting effort, states have some flexibility in applying these two means to achieve a certain equalization effort. According to our analysis, states could have achieved the same equalization effort in school year 1991-92 with different combinations of state share and targeting. Table 2.3 shows four states that achieved an equalization effort of 76 percent and four others that achieved an effort of 54 percent, each with different combinations of state funding shares and targeting efforts. For example, Colorado and Alaska both achieved an equalization effort of 76 percent—Colorado with a high targeting effort and a relatively low state share of total funding and Alaska with a high state share and no targeting effort. In general, the greater a state's share of total funding, the less a state has to target to poor districts to reach a certain equalization effort. Likewise, the greater a state's targeting effort, the less its share of total education funding needs to be. (See table IV.5 in app. IV for the range of combinations.)

Table 2.3: Different Combinations of State Share and Targeting Effort Produced the Same Equalization Effort, School Year 1991-92

State	State share of total funding (in percent)	Targeting effort[b] (in percent)
76% equalization effort[a]		
Alaska	76	0
Washington	75	1
Idaho	67	13
Colorado	44	75
54% equalization effort[a]		
Iowa	49	10
Kansas	44	24
Pennsylvania	43	26
Virginia	36	50

[a]Equalization effort is a function of state share and state targeting effort. See app. II for details.

[b]State targeting is measured by the income elasticity of state funding, where district income represents the tax base per pupil. The income elasticity is the percentage difference in state funding resulting from a 1-percent change in district income. In this report, we multiplied the elasticity by 100 to measure the change in state funding associated with a 100-percent change in tax base wealth. Thus, a targeting effort of 40 percent means that as district income increased by 100 percent, state funding decre[illegible] by 40 percent, where the changes in funding and income are measured relative to their state average.

State Equalization Efforts Contributed to Reducing Funding Gaps

Although states could achieve a 100-percent equalization effort with sufficient state funding share and targeting efforts, only Nevada made the maximum effort given the total funding available in the state in school year 1991-92.[23] The average state equalization effort in school year 1991-92 would enable districts to finance 62 percent of the average funding level assuming all districts were making an equal tax effort. Other states' equalization efforts in school year 1991-92 ranged from 87 percent (Arkansas and Kentucky) to about 13 percent (New Hampshire).

States making a greater effort in school year 1991-92 had smaller funding gaps.[24] Table 2.4 shows the size of state funding gaps relative to states' equalization efforts for 21 states that had about the same relative local tax effort. In general, the larger the equalization effort in these states in school year 1991-92, the smaller the funding gaps between poor and wealthy

[23]In fact, Nevada targeted more state funds to poor districts than was necessary to allow districts to spend the state average funding per weighted pupil with an average tax effort. As a result, poor districts in Nevada could finance the state average funding level with lower tax effort than wealthy districts.

[24]The simple correlation between states' funding gaps and state equalization efforts nationwide was –0.52, meaning that greater equalization efforts were linked to smaller funding gaps.

districts. For example, West Virginia had a large equalization effort, resulting in a small funding gap between its wealthy and poor districts. More specifically, the poorest districts in West Virginia had $4,859 per weighted pupil; the wealthiest had $5,044, a difference of only 4 percent. In contrast, Illinois had a small equalization effort, which was associated with a large funding gap. The poorest districts in Illinois had $4,330 per weighted pupil; the wealthiest had $7,249, a difference of 67 percent.

Table 2.4: Large Equalization Effort Reduced Funding Gaps, School Year 1991-92

State equalization effort[b]	Size of funding gap[a]		
	Large	**Moderate**	**Small/none**
Small (30% to 49%)	Illinois Ohio South Dakota	New Jersey North Dakota Tennessee	
Moderate (50% to 69%)		Indiana Louisiana Maine Wisconsin	Kansas
Large (70% to 87%)	Alabama	Arkansas Colorado Minnesota South Carolina	Delaware Oklahoma Texas Washington West Virginia

Note: The poor districts' tax efforts in these 21 states were all somewhat larger than wealthy districts', with the ratio of poor districts' tax efforts to wealthy districts' ranging from 1.04 to less than 1.5.

[a]Funding gaps are measured by the elasticity of total (state and local) funding per weighted pupil with respect to district tax base (income) per weighted pupil and are adjusted for within-state differences in geographic and student need-related costs. An elasticity of 0 means that no relationship exists between district income and total funding per pupil—that is, no income-related funding gaps exist. Large funding gaps have an income elasticity of .25 or greater; moderate gaps have an income elasticity greater than .10 but less than .25; and small (or no) gaps have an income elasticity of less than or equal to .10.

[b]A state equalization effort is the proportion of the state average funding per pupil that state aid would enable districts to finance if all districts were to make the same tax effort. An equalization effort equal to 100 percent means that all districts would be able to finance the states' average funding level for their pupils with an equal minimum tax effort; less than 100 percent means the state policies would enable districts to finance a funding level less than the state's average if all districts were to make the same tax effort.

Poor Districts' Extra Effort More Important Than Equalization Effort in Closing Funding Gaps in 1991-92

Although state equalization effort has an important effect on reducing the funding gap between poor and wealthy districts, districts' relative tax effort was more important in closing the funding gaps in 1991-92.[25]

Nationwide, equalization effort and relative local tax effort accounted for about 63 percent of the variation in the funding gap. In 35 states, poor districts made a greater tax effort than wealthy districts. Nine states in school year 1991-92 with funding gap scores that were not statistically different from zero exemplify the importance of this tax effort (see table 2.5). In these states, the tax effort of the poorest districts was greater than that of the wealthiest districts. Poor districts' extra effort ranged from 106 percent as much as wealthy districts' in Delaware to over four times as much in Wyoming. Poor districts' extra effort was particularly important in the three states—Iowa, Kansas, and Wyoming—that closed their funding gaps with an equalization effort that was less than the national average (62 percent).

Table 2.5: Poor Districts' Extra Tax Effort Important to Closing Funding Gaps, School Year 1991-92

States with no significant funding gaps[a]	State equalization effort[b] (percent)	Poorest districts' tax effort as a percent of wealthiest districts'
Wyoming	53	417
Iowa	54	189
Kansas	54	124
Mississippi	65	284
Utah	71	170
Texas	72	119
Delaware	75	106
West Virginia	82	117
New Mexico	85	284

Note: States in bold have equalization efforts above the national average (62 percent).

[a]Funding gaps are measured by the elasticity of total (state and local) funding per weighted pupil with respect to district tax base (income) per weighted pupil and are adjusted for within-state differences in student need-related and geographic costs.

[b]A state equalization effort is the proportion of the state average funding per pupil that state aid would enable districts to finance if all districts were to make the same tax effort. Local tax effort is the local funding per weighted pupil raised for $1,000 of income per weighted pupil.

[25]We used a statistical measure to assess the relative importance of these two factors in contributing to these results. The measure is the beta coefficient associated with the regression coefficient for each variable. The beta coefficient measures the importance of an independent variable relative to the other independent variables in explaining the variation in the dependent variable. The beta coefficient associated with relative local tax effort was greater than the one for equalization effort by 42.4 percent. See GAO/HEHS-97-31, Feb. 5, 1997, pp. 96-7.

Conclusion

On the basis of 1991-92 data, poor districts' extra tax efforts had more impact on closing funding gaps between poor and wealthy districts than state equalization efforts. The average state equalization effort in school year 1991-92 was 62 percent, however, suggesting that states could have more impact on the funding gap if they were to strengthen their equalization policies. Among the nine states with no significant funding gap, the poor districts' greater tax effort substantially contributed to closing this gap in at least three of these states. This suggests that in developing strategies to further reduce funding gaps, policymakers may want to consider policies regulating local tax effort in combination with equalization policies.

Chapter 3

Tax Constraints Play an Important Role in Reducing Funding Gaps Among School Districts

Steps taken to equalize funding among poor and wealthy school districts in the four states we reviewed—Oregon, Kansas, Rhode Island, and Louisiana—produced mixed results. According to state officials, each state made changes designed to increase the amount of state aid to poor districts to close the funding gap between poor and wealthy districts. However, only two of the states—Oregon and Kansas—narrowed the funding gap mainly because they significantly increased their equalization effort and constrained local tax effort. Louisiana's funding gap widened, and Rhode Island's funding gap stayed almost the same because increased equalization efforts were comparatively small and more than offset by changes in the respective school districts' tax efforts. These states' experiences, however, illustrate how both state equalization efforts and policies affecting the tax efforts of poor and wealthy districts can play an important role in reducing the funding gap.

Differing Forces Shaped Changes to State School Finance Systems

We chose Oregon, Kansas, Rhode Island, and Louisiana to study because they used a wide array of strategies for changing their finance systems, these changes took place between school years 1991-92 and 1995-96, and state officials thought the changes would improve student equity.[26] Beyond improving student equity, the forces driving reform in each state varied and included citizens' demands for property tax relief, state budgetary crises, and court pressure.

Oregon: Property Tax Relief

Throughout the 1980s, two recurring problems affected Oregon's school finances: (1) a crisis in some districts' ability to fund schools because voters repeatedly rejected operations levies and (2) frequent attempts by antitax activists to reduce property taxes, the main source of local funding for the state's public schools. To address the school funding crisis, the Oregon state legislature suspended the state funding formula in 1989, and the state began allocating future funding (through school year 1991-92) at the 1989 level plus an increasing percentage factor, according to a state official.[27] Oregon took these actions after a blue ribbon panel commissioned by the legislature recommended that the state scrap the

[26]Although student equity can have different meanings, in this report it refers to equal opportunity. Equal opportunity, which is also known as fiscal neutrality, means that differences in expenditures per pupil cannot be related to local school district wealth. Within this definition, we also recognize that differences among students mean some students deserve or need more educational services than others.

[27]For 3 years ending in school year 1991-92, Oregon's school funding was in transition from the previous distribution formula suspended in 1989. According to a state official, during each of those 3 years, districts received their 1989 state grant plus an increasing percentage factor.

existing finance system and create one less reliant on local property taxes. In 1990, however, before the legislature could develop a new funding formula, Oregon voters adopted a constitutional amendment placing a ceiling on the property tax rate that could be assessed for school operations and requiring the state to replace any lost local education revenues with state funds. This forced the legislature to develop a school finance formula driven mainly by state funds. The new tax rates were phased in between school years 1991-92 and 1995-96; steps to implement the new funding formula began in school year 1992-93 and, according to a state official, are scheduled to be completed by 2001.

Kansas: Court Pressures and Property Tax Rate Disparities

An October 1991 pretrial court ruling was the main reason for changes to Kansas' school finance system. The legal challenge from four consolidated lawsuits filed by school districts and citizens claimed, among other things, that large disparities in both local property tax rates and in spending per pupil violated the state constitution. The district court judge met with state government and education leaders and presented his interpretation of the state's responsibility for educating all of its children. He emphasized that the state has a duty to develop a rational finance system that recognizes disparities in spending based on legitimate student and district characteristics. He suggested that the pending trial could be avoided if the finance system was changed in the 1992 legislative session. The legislature accepted the judge's challenge and developed a new finance system that was implemented in school year 1992-93.

Rhode Island: State Budget Crisis

In 1990, a crisis in Rhode Island's savings and loan institutions and credit unions forced the state to use state funds to bail out these entities, state education officials said. According to these officials, diverting state funds to address this crisis forced the legislature to cut the state budget, including funding to elementary and secondary education. These cuts dramatically reduced the state share of education funding from 52 percent in 1991 to about 38 percent in 1992. The cuts in state funding hit hardest in poorer districts that could not offset the lost state funding with increased local revenue, resulting in a reduction in district revenue, according to the officials. In contrast, they said, wealthier districts could protect their spending levels because they could fully offset losses in state funding by increasing local revenue. Recognizing the growing inequities, the legislature began implementing changes to the finance system in 1992.

Louisiana: State Budget Crisis

A crisis in the oil industry in the 1980s, which dramatically reduced state tax revenue, forced the Louisiana state legislature to reduce the state share of funding for its public schools, state education officials said. The impact of the cuts on state funding highlighted the inequities in the state funding formula, which allocated state funds on the basis of teacher and staff costs and made little or no adjustment for differences in districts' abilities to raise revenue or for student need, they said. In response, Louisiana voters passed a constitutional amendment mandating the equitable allocation of education funds and transferring control of the state funding formula from the state legislature to the state Board of Elementary and Secondary Education (BESE). In 1988, BESE began revising the funding formula to improve student equity. The legislature approved the new funding formula in 1992, and the state began implementing it in the 1992-93 school year; it is scheduled to be completed by the 1999-2000 school year.

Changes to State Policies Affecting Funding Gaps

In revising their school finance systems, all four states increased their equalization effort and made changes affecting the local tax effort of their school districts.[28] As table 3.1 shows, Oregon and Kansas each substantially increased their equalization effort; Rhode Island and Louisiana more modestly increased their effort. The large increases in Oregon's and Kansas' equalization efforts can be explained by the large increases in their state shares of total funding and, in Kansas, by an increase in its targeting of state funds to poorer districts. The increase in Rhode Island's equalization effort reflects the relatively small increase in the state share of education funding. The increase in Louisiana was due to the state's effort to target more state funds to poor school districts.

[28]"Tax effort" refers to a school district's effort to raise local funding for all primary and secondary education services relative to a measure of a district's ability to pay. Tax rates, on the other hand, are factors applied against a specific statutory tax base to determine a district's tax yield. Tax rates directly affect a school district's tax effort. For a further discussion of tax effort, see app. III.

Table 3.1: Changes in State School Financing Measures and Actions Affecting Local Tax Effort, School Years 1991-92 to 1995-96

Changes are in percentage points

Changes in state measure or action	Oregon	Kansas	Rhode Island	Louisiana
Equalization effort[a]	+.26	+.32	+.01	+.05
State share[b]	+.26	+.17	+.02	-.04
Tax base targeting[c]	-.07	+.24	-.02	+.15
Actions affecting local tax effort	Mandated maximum property tax rate to raise most local revenue	Mandated uniform property tax rate to raise most local revenue	Ended incentives for increasing local education expenditures and local property taxes	Introduced incentives to increase local property or sales tax effort

[a]Equalization effort represents the combined effects of the state share of total education funding and the targeting of funds to poorer school districts.

[b]State share is the proportion of total funding (state and local) provided by the state.

[c]This is the state's effort to target more funds to poor districts.

Regarding changes affecting the local tax effort, Oregon and Kansas constrained districts' tax efforts.[29] In addition, Rhode Island and Louisiana made changes that affected incentives for increasing districts' tax efforts.[30] Rhode Island suspended the funding program that had encouraged districts to increase their education spending. In contrast, Louisiana introduced a state aid matching program for districts willing to exceed a minimum tax rate. Table 3.1 shows each state's relative change in state school finance measures as well as actions affecting local tax efforts. The actual values for each state's equalization effort, state targeting effort, state share, relative local tax effort, and funding gaps for school years 1991-92 and 1995-96 appear in appendix III.

State Efforts Produced Mixed Results

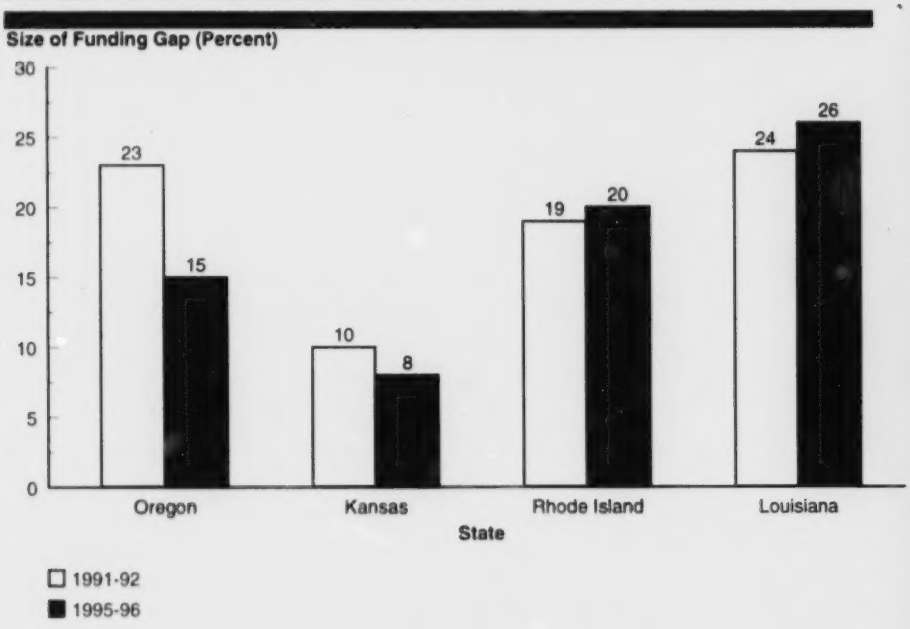
State legislatures often change their school finance systems to improve student equity. In most cases, some wealthier districts must give up some of their advantage to improve the funding levels of poorer districts. Even so, a state may not reach an acceptable level of student equity if changes in local tax choices offset the state's equalization efforts. Two states, Oregon and Kansas, narrowed the funding gap mainly by increasing the

[29]State law set the statutory local tax rates, which in turn affected the amount of local revenue that a district could raise for education purposes relative to its tax base wealth. This effectively constrained local tax effort.

[30]The school districts in Rhode Island are fiscally dependent. Local funding for elementary and secondary education is raised as part of the local municipal tax levy.

state share of education funding and limiting districts' ability to raise local revenue. In Rhode Island and Louisiana, changes in school district tax efforts undermined the effects of moderate state equalization efforts. Figure 3.1 summarizes the changes in the size of the funding gaps between wealthy and poor districts in the four states we reviewed.

Figure 3.1: Change in Funding Gap, School Years 1991-92 and 1995-96



Note: The funding gap between poor and wealthy districts is defined as the elasticity of a district's total (state and local) funding relative to district tax base. An elasticity of 0 implies that no funding gap exists (fiscal neutrality has been achieved) because no systematic differences exist in per pupil funding between wealthy and poor districts. A positive elasticity implies that total funding per weighted pupil is higher in wealthy districts than in poor districts. The tax base used to analyze the changes in the states was property wealth for Oregon, Kansas, and Rhode Island, and a combination of sales tax and property wealth for Louisiana.

Oregon Reduced Funding Gaps

In 1990, Oregon's voters approved an initiative that set a statewide maximum levy rate.[31] This rate significantly reduced local tax effort and

[31]This levy limitation only affected the revenue raised for operations expenditures. Between 1991-92 and 1995-96, the maximum levy rate was reduced from $15 per $1,000 of property value to $5. Revenue for construction and capital improvements is primarily provided by the local district. To be consistent, our analyses for the four states included the revenue raised for both operations and capital expenditures.

forced the legislature, which was creating a new funding formula, to adopt a formula funded largely by state revenue rather than local revenue. Before implementing the new formula, the education funding for Oregon's school districts was primarily based on districts' property wealth and voters' willingness to approve funding levies, resulting in a large variation in spending levels by district. To make up for the loss of local revenue, the state sharply increased its share of funding from 33 to 59 percent between school years 1991-92 and 1995-96. The new state funding formula included a new base funding level per student and allowed for adjustments to the base to account for (1) student needs, such as those for special education, poverty, and English as a second language, and (2) district needs, such as transportation costs and teacher costs based on teacher experience. The state share of funding for an individual district equaled the base funding level adjusted for student and district needs less the revenue the district could raise locally at the mandatory tax rate.

Initially, under the new state finance system, total revenue in the wealthiest districts would have decreased significantly; revenue in the poorest districts would have greatly increased. Concerned about the impact of these funding changes, the legislature decided to phase in the new formula, limiting the effect of the change on wealthy districts, while slowly increasing funding to the poorest districts.

Despite the phased-in approach, the changes in Oregon's finance system narrowed the funding gap between the wealthiest and poorest districts from 0.23 to 0.15 as shown in figure 3.1. For the poorest districts, total funding increased by $805 per weighted pupil; for the wealthiest districts, it increased by $586 (see table 3.2).

Table 3.2: Changes in Oregon's Education Funding, School Years 1991-92 to 1995-96

Funding category	Poorest districts			Wealthiest districts		
	1991-92	1995-96	Change[a]	1991-92	1995-96	Change[a]
Total[b]	$4,723	$5,528	$805	$5,762	$6,347	$586[c]
State[b]	2,288	3,782	1,494	1,357	3,074	1,717
Local[b]	2,434	1,746	-688	4,405	3,273	-1,132
Local tax effort[d]	17.58	8.76	-8.82	11.43	5.94	-5.49

[a]Dollar difference (1995-96 dollars less 1991-92 dollars).

[b]Funding figures are in terms of per weighted pupil. Dollar amounts have not been adjusted for inflation.

[c]Difference is due to rounding.

[d]Local tax effort for each group—poorest districts and wealthiest districts—is the total amount of local revenue raised by all districts within the group for every $1,000 of district property wealth. We divided each state's student population by quintiles according to district tax base wealth. The poorest and wealthiest districts in this table have from 16 to 22 percent of the state's students each.

Oregon succeeded in reducing its funding gap because it increased its equalization effort by increasing its state share of education funding more than enough to offset the modest decline in its effort to target more funds to poorer districts. The voter-driven initiative had the effect of reducing the tax efforts of both poor and wealthy districts proportionately. Thus, almost no change occurred in the relative tax effort of both poor and wealthy districts, ensuring that the state's increased equalization effort would reduce the funding gap.

Under the new finance system, although all Oregon districts received more state aid, a smaller share of the increased state aid was targeted to poor districts. The state decided to constrain the implementation of its new funding formula by gradually increasing state aid to its poorest districts to avoid reductions in total funding in wealthier districts. Between school years 1991-92 and 1995-96, about 66 percent of the $1,717 increase in state funding per weighted pupil was needed to replace the wealthiest districts' loss of $1,132 per weighted pupil in local funding. In the poorest districts, most of the increased state aid was new funding rather than a replacement for lost local funding. Only 46 percent of the $1,494 increase in state funding per weighted pupil was needed to cover the $688 loss in local funding.

Kansas Reduced Funding Gaps

In 1992, the Kansas legislature, hoping to avoid a trial of the constitutionality of the state finance system, made changes that increased

the state's role in determining school districts' funding levels. To address both student and taxpayer equity concerns, the state increased its share of funding from 42 to 59 percent (between school years 1991-92 and 1995-96), targeted more funding to poor districts, and imposed a uniform tax rate on all districts, giving most districts property tax relief, while raising tax rates for some of the wealthiest districts.[32] In the process, the state dramatically revised its school finance system.

Beginning in the 1992-93 school year, the state (1) set a base budget for each district based on student and district needs such as vocational and bilingual education and enrollment size; (2) funded the difference between a district's base budget amount and what the district could raise locally under the uniform statewide property tax rate; (3) required districts that raised revenues above the base budget, at the uniform tax rate, to remit the excess revenue to the state for distribution as state aid to less wealthy districts;[33] and (4) provided districts the option of raising additional funds—up to 25 percent above the base budget—with an increase in the property tax rate subject to voter approval.[34] The state provided supplemental funding for some districts that raised the additional revenue—the poorer the district the higher the state funding. This funding was intended to give high-spending districts the opportunity to maintain their spending levels. Districts are not eligible for supplemental state funding if their assessed valuation per pupil is at or above the 75th percentile of assessed valuations for all districts in the state.

Overall, the changes in Kansas' finance system narrowed the funding gap between the wealthiest and poorest districts from 0.10 to 0.08, as shown in

[32]Kansas' statewide uniform property tax rate was initially set at $32 per $1,000 assessed property valuation in 1992 and only applied to the local revenue raised to finance a district's base budget amount. The Kansas legislature increased this rate to $33 in 1993 and $35 in 1994; it later lowered it to $33 in 1997.

[33]Of Kansas' 304 districts, 10 remitted excess local revenue totaling $34.3 million to the state in the 1995-96 school year.

[34]This provision, known as the local option budget (LOB), has been subject to a protest petition and election provision since school year 1993-94. When the school district board adopts a resolution for an LOB, the resolution may be adopted unless a protest petition signed by at least 5 percent of the district's electorate is filed within 30 days after publication. If the petition is filed, the LOB cannot be used unless approved by the electorate.

figure 3.1. For the poorest districts, total funding increased $1,124 per pupil; for the wealthiest districts, it increased $1,111 (see table 3.3).[35]

Table 3.3: Changes in Kansas' Education Funding, School Years 1991-92 to 1995-96

Funding category	Poorest districts			Wealthiest districts		
	1991-92	1995-96	Change[a]	1991-92	1995-96	Change[a]
Total[b]	$4,026	$5,150	$1,124	$5,840	$6,951	$1,111
State[b]	2,471	3,783	1,312	1,892	2,489	597
Local[b]	1,555	1,367	-188	3,948	4,462	514
Local tax effort[c]	99.37	78.96	-20.41	54.95	59.40	4.45

[a]Dollar difference (1995-96 dollars less 1991-92 dollars).

[b]Funding figures are in terms of per weighted pupil. Dollar amounts have not been adjusted for inflation.

[c]Local tax effort for each group—poorest districts and wealthiest districts—is the amount of total local revenue raised by all districts within the group for every $1,000 of district wealth. Each group has approximately 20 percent of the state's student population.

Kansas succeeded in reducing its funding gap because it increased its equalization effort by significantly increasing both the state share of funding and its effort to target more funding to poor districts. The state also imposed a uniform tax rate on all districts that had the effect of decreasing the poorest districts' tax effort and increasing that of the wealthiest. Although this change in tax effort would normally widen the funding gap between poor and wealthy districts, this was prevented in part because the wealthy districts were required to remit their excess local revenue for distribution as state aid to less wealthy districts. In addition, even though the state gave districts the choice of raising their property tax rates enough to increase their spending levels up to 25 percent above the base budget, limiting this additional spending allowed the state to maintain control over district spending levels. More than half of the 304 districts chose to increase their spending levels above the base budget in school year 1995-96.

All these changes led to nearly every district receiving additional state funding. As table 3.3 shows, between school years 1991-92 and 1995-96, the

[35]In school year 1991-92, the difference in total funding between the poorest and wealthiest districts was large—about $1,800 per pupil. By school year 1995-96, that difference remained about the same. In contrast, our measure of the tax base elasticity of total funding among all school districts in Kansas, which measures the gap in funding between poor and wealthy districts, shows somewhat small gaps of 0.10 in 1991-92 and 0.08 in school year 1995-96. However, in calculating the degree of change in both measures between school years 1991-92 and 1995-96, we found that the difference narrowed by about the same margin of 20 percent.

poorest districts received proportionately more state aid than the wealthiest districts. The poorest received an additional $1,312 per weighted pupil in state aid under the new system, an increase of about 53 percent. In contrast, the wealthiest districts received an additional $597 per weighted pupil in state aid, an increase of only about 32 percent. The wealthiest group included 10 districts that received no state aid in school year 1995-96 and instead had to remit about $34 million in excess local revenue to the state. Had these 10 districts kept the excess revenue, the funding gap between wealthy and poor districts would have widened, not narrowed, according to our analysis.

The state's imposing the uniform property tax rate, in addition to improving student equity, more equally distributed tax burdens by district. As table 3.3 shows, the tax effort of the poorest districts dropped by $20.41 per pupil (a 21-percent decrease); the tax effort of the wealthiest districts increased by $4.45 per pupil (an 8-percent increase). Nevertheless, the poorest districts still had a higher tax effort than the wealthiest. This indicates that even with more state aid and a reduced tax effort, Kansas' poorest districts were still making a greater tax effort than the wealthiest districts.

Rhode Island's Funding Gaps Changed Little

Before 1995, Rhode Island's operations aid program allocated a given percentage of a district's total expenditures to each school district. To help equalize total funding, poorer districts received a higher state funding percentage than wealthier districts, although all districts were guaranteed some percentage of their total expenditures until 1994. This provided a greater incentive for poor districts to increase their funding compared with wealthier districts.[36] With the sharp drop in state education funding in school year 1991-92, however, the state reduced the amount of district expenditures it financed. This decline in state aid forced the districts to try to replace the lost funds with local revenue raised from property taxes. Although the wealthier districts could generally replace the lost state aid, some of the poorer districts met taxpayer resistance, according to state officials. Recognizing that the funding gap between the poor and wealthy districts was growing, the legislature took steps to address the system's inequities. The state (1) stopped using its equalization formula to distribute funding in school year 1995-96, and, as a result, poor and wealthy districts alike no longer had an incentive to increase their

[36]That is, for a given amount of total expenditures, the state reimbursed poor districts at higher rates than wealthier districts.

education expenditures[37] and in turn their local tax effort; (2) implemented several new categorical funding programs targeted specifically to poor communities; and (3) slightly increased the state share of funding from 40 percent in school year 1991-92 to 42 percent in school year 1995-96.

Despite state efforts to address the inequities, the changes to Rhode Island's finance system had almost no effect on the funding gap between wealthy and poor districts, which changed from 0.19 to 0.20, as shown in figure 3.1. For the poorest districts, total funding increased by $911 per weighted pupil; funding to the wealthiest districts increased by $1,040 (see table 3.4).

Table 3.4: Changes in Rhode Island's Education Funding, School Years 1991-92 to 1995-96

Funding category	Poorest districts			Wealthiest districts		
	1991-92	1995-96	Change[a]	1991-92	1995-96	Change[a]
Total[b]	$5,054	$5,965	$911	$6,622	$7,662	$1,040
State[b]	2,832	3,984	1,152	1,721	1,664	-57
Local[b]	2,222	1,982	-240	4,901	5,998	1,097
Local tax effort[c]	16.57	13.75	-2.82	14.52	14.33	-0.19

[a]Dollar difference (1995-96 dollars less 1991-92 dollars).

[b]Funding figures are in terms of per weighted pupil. Dollar amounts have not been adjusted for inflation.

[c]Local tax effort for each group—poorest districts and wealthiest districts—is the amount of local revenue raised by all districts within the group for every $1,000 of district property wealth. We divided the state student population by quintiles according to district tax base wealth. The poorest and wealthiest groups in this table have from 16 to 23 percent of the student population.

Despite an increase in equalization effort by increasing state share, between school years 1991-92 and 1995-96, Rhode Island could not narrow the funding gap in part because of the poorest districts' response—a large decrease in local tax effort—to changes in the state aid program and the difference in the growth of districts' tax bases. Because of the restructuring of its school finance system, state aid increased in the poorest districts by an average $1,152 per weighted pupil; state aid to the wealthiest districts decreased by $57.

[37]The state guaranteed a minimum-share ratio of each school district's education expenditures. During 1991, each district received a minimum share of 28 percent; this share declined to 15 percent in fiscal year 1993 and had been eliminated by 1995.

Although most of Rhode Island's school districts, poor and wealthy alike, reduced their local tax effort, the poorest districts' decrease was much larger than the wealthiests'. The large increase of $1,152 per pupil (41 percent) in state aid may have prompted the poorest districts to reduce their local tax effort by $2.82 per pupil (a 17-percent decrease), resulting in a decrease in local revenue of $240 per weighted pupil. Although the wealthiest districts slightly decreased their tax effort by $0.19 per pupil (a 1-percent decrease), they also had large increases in property values (24 percent compared with 7.5 percent for the poorest). The resulting increase of $1,097 per weighted pupil in local funding was more than enough to offset the decline in state aid. Therefore, the funding gap changed little. The ability of Rhode Island's districts to change their local tax effort in response to changes in state aid undermined state efforts to close the funding gap.

Louisiana's Funding Gaps Widened

Before the 1992-93 school year, Louisiana allocated state funding to its school districts mainly on the basis of teacher and staff costs associated with district enrollment size. The state made little or no adjustment for differences in a district's ability to raise local revenue or for student need-related cost differences. As a result, some affluent districts received more state funding than poorer districts because they had higher teacher costs, according to a state official. The main source of local revenue for districts was the sales tax. Property tax revenue was limited because of a homestead exemption[38] and an industrial exemption,[39] which limited tax revenue from certain companies. Affluent districts often generated more local revenues with lower tax rates than poorer districts because they had higher levels of sales or property tax bases, according to officials.

When the oil crisis forced reduced state funding for education, it highlighted the unfairness of the state's finance system. This awareness led to a voter-approved constitutional amendment that required BESE to recommend a more equitable education funding formula. Thus, in 1992, BESE proposed and the state legislature approved a new funding formula to target more funding to less wealthy districts. The state also changed how it measured district wealth by using an adaptation of the representative tax system. This system calculates each district's ability to raise revenue for education by estimating the combined total sales and property tax revenue

[38]According to the homestead exemption, personal residences with a fair market value of $75,000 or less are exempt from school district-levied property taxes.

[39]Industry receives a 10-year property tax exemption as an inducement to locate and expand in the state. The exemption includes education revenue.

a district could raise at the state average sales and property tax rates. The new funding formula is a two-tiered formula. The first tier provides each district a basic funding level with additional funding provided for the increased costs of educating students such as those who are at risk or need remedial or special education. The state share of a district's basic funding level is the difference between the basic level and the amount the district could raise if it were to apply the recommended tax rate. The amount of local revenue the state calculates as a district's ability to pay is only for determining the state allocation, however; districts are not required to raise the local revenue. To raise the overall funding level for education, the state established a second tier to provide an incentive for districts to raise local revenues beyond the amount required by the funding formula's first tier with a potential state match of up to 40 percent. The amount of additional funding a district receives is based on its wealth—poorer districts receive more than wealthier districts.

Despite changes to Louisiana's finance system, the funding gap between the wealthiest and poorest districts slightly increased from 0.24 to 0.26, as shown in figure 3.1. More specifically, Louisiana's poorest districts' total funding increased by $503 per weighted pupil; funding to the wealthiest districts increased by $724 per weighted pupil as shown in table 3.5.

Table 3.5: Changes in Louisiana's Education Funding, School Years 1991-92 to 1995-96

Funding category	Poorest districts			Wealthiest districts		
	1991-92	1995-96	Change[a]	1991-92	1995-96	Change[a]
Total[b]	$3,348	$3,852	$503[c]	$4,279	$5,003	$724
State[b]	2,443	2,848	405	2,419	2,327	-92
Local[b]	905	1,004	99	1,860	2,676	816
Local tax effort[d]	1.16	0.98	-0.18	0.85	0.90	0.05

[a]Dollar difference (1995-96 dollars less 1991-92 dollars).

[b]Funding figures are in terms of per weighted pupil. Dollar amounts have not been adjusted for inflation.

[c]The difference is due to rounding.

[d]Local tax effort was calculated on the basis of a ratio of local revenue dollars raised for every dollar that could have been raised at an average tax rate using a combination of property and sales tax. Each group represents approximately 20 percent of the state's student population.

Between school years 1991-92 and 1995-96, Louisiana's funding gap slightly increased despite the state's increased equalization effort because wealthy

districts increased their tax effort and poor districts decreased their tax effort, leading to changes in local revenue that undermined the effects of the state's modest equalization effort. Under the new system, state aid increased to the poorest districts an average of $405 per weighted pupil; state aid to the wealthiest districts declined by $92. This increase in targeting effort would normally be expected to narrow funding gaps among districts, but in Louisiana it did not.

With the implementation of the new funding formula, the wealthiest districts increased their local tax effort by $0.05 per pupil (a 6-percent increase). This increase in tax effort coupled with a 35-percent increase in tax base helped to increase local revenue by $816 per weighted pupil and served to more than offset the loss in state aid. Although the amount of local revenue raised by the poorest districts increased by $99 per weighted pupil, the increase reflects a 32-percent increase in their tax base and not their tax effort, which fell by $0.18 per pupil (a 16-percent decrease). The poor districts' tax effort declined despite state financial incentives to increase it, although it remained higher than that of the wealthiest districts.

Conclusion

Achieving student equity among a state's school districts is difficult. Legal challenges, state budget concerns, or the state's voters generally drive changes to a state's elementary and secondary education funding policies. In most states, however, education represents a large share of a state's overall expenditures, and decisions are made in a political environment that generally requires compromise. Even in states that successfully negotiate compromises among several competing interests—students, taxpayers, and advocates for local control of education—the envisioned levels of funding equity among school districts may not be reached. The tools that states use to equalize district tax bases—increased state share of total education costs, increased targeting of state funds to poor districts, or both—may not be enough unless the state is willing to adopt policies that control local tax effort. In the states we reviewed, Oregon and Kansas closed the funding gap because, in addition to their strong equalization efforts, they took steps to control the tax effort of districts, as shown in table 3.6. On the other hand, efforts to close the funding gap in Rhode Island and Louisiana did not succeed because their equalization efforts, though positive, were modest and their poorer districts provided tax relief in response to the increased targeting of state aid to poorer school districts.

Table 3.6: Strategies and Results of State Efforts to Reduce Funding Gaps in School Years 1991-92 and 1995-96

	Strategy		
State	Strengthen equalization policies	Limit local tax effort	Result—funding gap reduced
Oregon	yes	yes	yes
Kansas	yes	yes	yes
Rhode Island	yes	no	no
Louisiana	yes	no	no

State and Federal Policies Can Help Reduce Funding Gaps

Both states and the federal government can play a role in reducing or even eliminating funding gaps between poor and wealthy districts. At the state level, three tools can help reduce funding gaps: increasing the state's share of total funding so that differences in local funding will have proportionately less effect on overall per pupil spending, increasing state-level efforts to target funds specifically to poor districts, and constraining district tax behavior. Deciding what combination of these three tools should be used depends on the equity outcomes that a state wants to accomplish for students and taxpayers.

In our cost analysis of alternatives to completely eliminate state funding gaps in school year 1991-92, we found that the policy changes states would have to effect can be substantial. Overall, state efforts to eliminate their funding gaps while requiring districts to maintain their existing tax effort would require the median state share of funding to increase from about 50 to 71 percent—assuming no change in the state's targeting effort. Alternatively, if states were to rely solely on their targeting effort without increasing their state share, a more than 200-percent increase in the median state effort to target funds to poor districts would need to occur. Such an increase would mean that some states would have to require wealthy districts to forego state aid altogether and possibly even contribute some of their local revenues to benefit poorer districts.

At the federal level, two provisions in the Improving America's Schools Act of 1994 encourage states to equalize funding among school districts. Both provisions focus on funding outcomes only—rewarding states for achieving a specific degree of student funding equity. Neither provision considers the extent to which taxpayers in poorer school districts may have contributed to this outcome by making a greater local tax effort than taxpayers in wealthier districts.

State Options for Reducing Funding Gaps

State options for reducing funding gaps involve using policy tools governing state equalization efforts and local taxing behavior. Which policy tools a state may choose to implement depends upon the outcomes it wants to achieve.

Policy Tools for Reducing Funding Gaps

States have three tools by which to reduce funding gaps. The first two involve state equalization policies: increasing the state share of funding and increasing state targeting. Most states would probably find it easier to use a combination of these two tools rather than rely on one exclusively. To close the funding gap, however, a state may also need to use the third

tool: constraining local tax behavior. A state may use this tool in three ways: (1) holding district tax efforts at current levels, (2) setting an equal local tax effort, or (3) setting a required minimum level of tax effort.

Increasing State Share and Targeting Effort

A state's equalization effort can provide more funding to poorer districts in two ways:

- by increasing the state share of total funding so that differences in local funding will have proportionately less effect on overall student expenditures and
- by increasing its targeting effort; that is, a state can adjust its approach so that aid goes more exclusively to poor districts.

Some states already extensively target their aid to poor districts, while other states do not. At its most extreme, this redistribution could require the state to recapture local funding raised above a maximum amount and redistribute that funding to other, poorer school districts.

Although some states may be able to choose between increasing their share of total funding or increasing their targeting effort, many states would probably need to increase both to reduce the financial impact on the state budget and on wealthier districts. The more a state can afford to increase its education spending, the less it would have to redistribute state funding—and possibly local funding—from wealthier to poorer school districts to reduce funding gaps. Regardless of the method used, increasing a state's equalization effort automatically improves equity for taxpayers because it allows poor districts with a high tax effort to finance the state average funding level per pupil with less of a tax effort.

Constraining Local Tax Behavior

Because local funding raised mainly through property taxes accounts for half of the nonfederal revenue that funds education, imposing tax constraints on localities may be necessary to close the funding gap among districts. Consequently, in pursuing student funding equity, states may have to confront taxpayer equity issues.

Tax constraints may be necessary because unconstrained local reaction to changes in state equalization aid can undermine the state's intent to improve student funding. For example, poor districts receiving additional state aid may use it for tax relief rather than for closing funding gaps. Similarly, wealthy districts receiving little or no state aid may raise local taxes, perpetuating the gaps. This kind of fiscal substitution has occurred, according to our research (see ch. 3). Therefore, ensuring that equalization

efforts can reduce funding gaps will probably require states to constrain local tax effort to some degree.

Tax constraints pose taxpayer equity issues. Such constraints may require districts to maintain existing tax efforts or to put forth a specified equal level of effort or a minimum level of effort. Assuming that the pattern of district tax efforts in school year 1991-92 still holds true, constraints that maintain the current tax effort would leave poor districts in most states making a greater tax effort than wealthy districts but still unable to raise as much funding as wealthy districts because of their less valuable tax base. Taxpayers may view constraints that require an equal or minimum level of tax effort beneficial, but the constraints alone—without increasing the state's equalization efforts—would not guarantee that districts would receive equal money for an equal effort.

Policy Options Effect Different Outcomes

The policy tools a state ultimately chooses to implement depend on the outcomes a state wants to achieve. States have four possible options to consider in reducing funding gaps, according to our research. Table 4.1 shows the impact of each option on different policy goals affecting students and taxpayers. These policy goals are reducing funding gaps, equalizing local tax effort, improving the amount of total revenue a district's taxpayers can expect to obtain with an equal tax effort, and allowing freedom of local tax choice. These policy options assume that a state would increase its equalization effort by increasing its share of total education funding, increasing its effort to target funding to poor districts, or increasing both. Only the first option would require no tax constraints.

Table 4.1: Impact of Policy Options on Policy Goals

Policy goals	Policy options			
	1. Increase equalization effort[a] and no tax constraint	2. Increase equalization effort and maintain tax effort	3. Increase equalization effort and require equal tax effort	4. Increase equalization effort and require minimum tax effort
Reduce funding gap	Conditional[b]	Yes	Yes	Yes
Equalize local tax effort	Conditional[c]	No[d]	Yes	No[e]
Improve district yield for a given tax effort	Yes[f]	Yes[f]	Yes[f]	Yes[f]
Allow for local tax choice	Yes	No	No	Yes (somewhat)[g]

[a]An increase in the equalization effort represents an increase in state share, state targeting, or both.

[b]This option might reduce funding gaps, depending on the extent to which districts engage in fiscal substitution. If no fiscal substitution occurs, funding gaps will be reduced.

[c]This option may better equalize tax effort, depending on the extent to which districts engage in fiscal substitution. In states where poor districts are making a greater tax effort, wealthy districts' raising their tax effort relative to poor districts will equalize local tax effort.

[d]Because poor districts in most states make a greater tax effort than wealthy districts, a requirement to maintain this effort would perpetuate unequal tax efforts among districts rather than eliminate them.

[e]Poor districts could choose to make a greater tax effort than the minimum. If this effort were also greater than the effort of wealthy districts, then tax efforts would remain unequal among districts.

[f]Because equalization effort represents the proportion of the state average funding level (state and local) that can be financed with an equal local tax effort, any increase in equalization effort will further improve this policy goal.

[g]Districts would be free to choose their tax rate as long as it did not drop below the minimum rate.

In the four policy options shown in table 4.1, the state's decision on controlling local districts' taxing effort differs. The decision to control local tax behavior and the type of constraint used have different implications for school funding and taxpayers. The advantages and limitations of states' using the various options appear in table 4.2.

Table 4.2: Implications of Options for Controlling Local Tax Effort

Option	Advantages	Limitations
No tax constraint	Locality maintains control	Fiscal substitution possible: local reactions to increased state equalization efforts may undermine those efforts
Maintain tax effort	Reflects local choice at a point in time	Localities cannot make other choices
	Lessens disparity in funding among districts	Maintains higher tax efforts of poor districts
		Limits future spending in wealthy districts
Require equal tax effort	All taxpayers paying at the same rate	No local tax choice
	Lessens disparity in funding among districts	
Require minimum tax efforts	Allows limited local choice	Would require review and revision of tax rates regularly
	Increases equality of tax efforts	Educational appropriations less predictable
	Best suited for states where poor districts make a less than average effort	

Costs Vary Among Options

The policy options and their permutations for reducing the funding gaps and equalizing tax efforts involve varying costs to the state. In general, reducing the funding gap alone would cost the state less than any effort that also equalizes tax efforts among districts. The cost would be less because the state would rely on districts with high tax efforts to continue closing part of the gap on their own. A state using this approach would need to provide only enough money to raise funding in poor districts to a level comparable with funding in wealthier districts. If a state chose to both reduce funding gaps and equalize districts' tax effort, its cost would tend to be higher. For most states, the funding gaps are so great that reducing or eliminating the gaps entirely would require substantially greater state funding, targeting, or both.

Eliminating Funding Gaps Would Require Major Changes in Most State Finance Systems

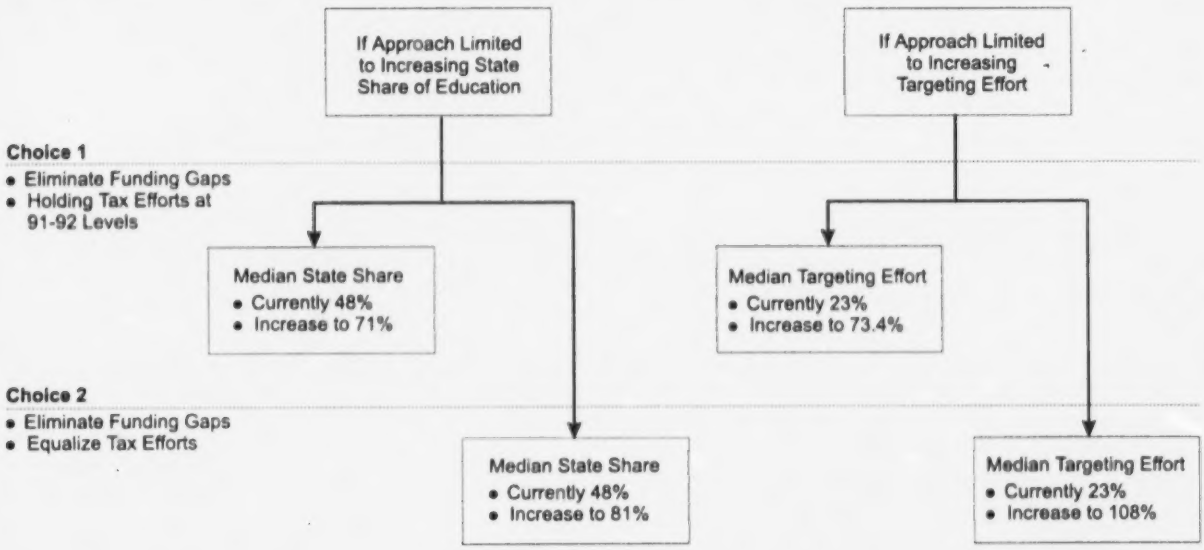
Illustrating the financial implications of reducing funding gaps is difficult because the requisite decisions involve judgments about (1) the extent to which states want to close the gaps, (2) whether states want to address differences in tax efforts as well as funding gaps, and (3) what combination of tools they choose to employ. Because the number of possible combinations of these factors is nearly endless, we cannot address the consequences of every potential combination.

To give a sense of the range of possibilities, however, we analyzed alternatives for eliminating the funding gaps under two scenarios: first, by allowing districts to maintain their school year 1991-92 tax effort, and, second, by requiring an equal tax effort for all districts. For each scenario, we assumed each state's aim would be to eliminate funding gaps entirely either by relying solely on increases in the state share of funding or by relying solely on increases in tax base targeting. Relying solely on increases in the targeting effort to eliminate funding gaps in some states might require recapturing some funds raised locally by wealthy districts and redistributing these funds to poor districts.

The national median state share of total (state and local) funding for elementary and secondary education was 48 percent in school year 1991-92. The median targeting effort was 23 percent.[40] If states were to eliminate the funding gap while holding district tax efforts at their 1991-92 levels, the median state share of funding would need to increase to 71 percent or the median targeting effort would need to increase to 73.4 percent. Eliminating the funding gap while equalizing tax effort raised these percentages to 81 and 108 percent, respectively. In school year 1991-92, only four states provided more than a 71-percent share of total (state and local) funding, and only two states had a targeting effort above 73 percent.

[40]State targeting is measured by the income elasticity of state funding, where district income represents the tax base per pupil. The income elasticity is the percentage difference in state funding that results from a 1-percent change in district income. In this report, we multiplied the elasticity by 100 to measure the change in state funding associated with a 100-percent change in tax base wealth.

Figure 4.1: Estimates of Levels of Effort Needed to Eliminate Funding Gaps


If Approach Limited to Increasing State Share of Education
If Approach Limited to Increasing Targeting Effort
Choice 1
• Eliminate Funding Gaps
• Holding Tax Efforts at 91-92 Levels
Median State Share
• Currently 48%
• Increase to 71%
Median Targeting Effort
• Currently 23%
• Increase to 73.4%
Choice 2
• Eliminate Funding Gaps
• Equalize Tax Efforts
Median State Share
• Currently 48%
• Increase to 81%
Median Targeting Effort
• Currently 23%
• Increase to 108%

Note: State share is calculated as a percentage of total state and local funding, excluding federal dollars.

States Vary Widely

National averages provide some indication of the overall effort needed to eliminate funding gaps, but they obscure the significant variation at the state level. Although substantial increases in state funding or targeting effort would be needed to fully eliminate funding gaps nationwide, a few states could do so with far less drastic changes than others. For example, Colorado and Illinois vary considerably in the size of their funding gaps, the share of total (state and local) funding they provide, and the extent of their targeting effort:

- In school year 1991-92, Colorado's wealthiest districts had just 8 percent more funding per weighted pupil than its poorest districts.[41] Colorado

[41]Funding has been adjusted for statewide differences in geographic and student need-related costs.

provided 44 percent of the total (state and local) funding for education, and its targeting effort in providing this funding was 75 percent.[42]

- In school year 1991-92, Illinois's wealthiest districts had 67 percent more funding per weighted pupil than its poorest districts. Illinois provided 33 percent of the funding for education, and its targeting effort was 23 percent.

These two states would face markedly different degrees of change in equalizing their funding levels among districts (see table 4.3). If Illinois did not increase its targeting effort to further redistribute state and local funding from wealthy to poor districts, then it would have to increase its share of funding substantially. It would have to raise its state share from 33 percent to at least 78 or 81 percent, depending on whether it wanted just to close gaps or to equalize tax effort as well. In contrast, Colorado would have to increase its state share of funding from 44 to at least 45 or 57 percent. Similarly, if the two states chose not to increase the state share of education funding, then the change in targeting effort required to eliminate the funding gap would also be significantly higher in Illinois than in Colorado.

Table 4.3: Changes Needed to Eliminate Funding Gaps in Colorado and Illinois

		State share of total funding, given school year 1991-92 targeting effort			State targeting effort, given school year 1991-92 state share of funding		
State	Size of funding gap[a]	In school year 1991-92	Needed to close gaps[b]	Needed to equalize tax effort and close gaps	In school year 1991-92	Needed to close gaps[b]	Needed to equalize tax effort and close gaps
Illinois	67%	33%	78%	81%	23%	165%	201%
Colorado	8%	44%	45%	57%	75%	80%	130%

[a]This column represents the ratio of funding in the wealthiest group of districts compared with the poorest group. Each group represents approximately 20 percent of the student population in the state.

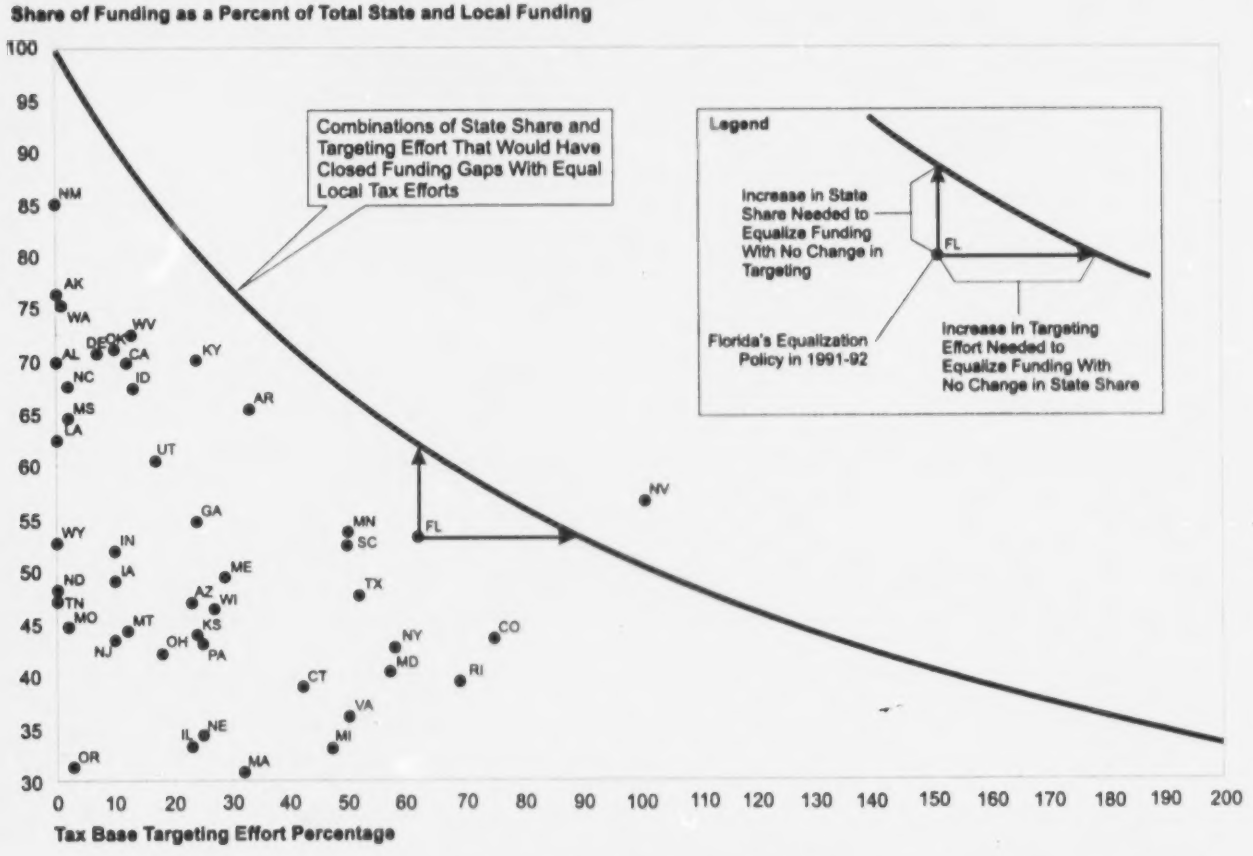
[b]With existing tax effort.

These differences typify the wide variation among states. Figure 4.2 shows each state's share of total funding and targeting effort in school year 1991-92 and the change necessary to eliminate funding gaps assuming an equal tax effort. The curved line running laterally through the figure

[42]A targeting effort of 75 percent meant that for every 100-percent increase in district resident income per pupil above the state average, state aid declines by 75 percent from the average state aid per pupil. By contrast, Illinois' targeting effort of 23 percent meant that a district 100 percent above the state average income per pupil receives only 23 percent less state aid per pupil than the state average.

indicates the various combinations of state share and targeting effort that would produce an equalization effort of 100 percent. If a state achieves 100-percent equalization, it means that the state's school finance system enables all districts to finance 100 percent of the state average funding level per pupil with an equal tax effort.

Figure 4.2: States Vary in the Policy Changes Needed to Achieve Full Equalization With an Equal Tax Effort



Note: Nevada targeted more state funds to poor districts than was necessary to achieve 100-percent equalization. As a result, poor districts in Nevada were able to finance the state average funding level with less tax effort than wealthy districts.

To eliminate the funding gap in Florida, for example, the state could choose to increase its share of total funding from 53 to about 62 percent or increase its targeting effort from 62 to about 89 percent. For other states, such as Illinois, Nebraska, and Massachusetts, the changes needed to both state share or targeting effort would be much more substantial.

Federal Incentives Encourage States to Equalize Funding Levels

At the federal level, two programs in the Improving America's Schools Act of 1994 have incentives that encourage states to equalize funding levels among districts. Both programs measure only the extent to which education funding is equalized. Neither program considers the extent to which a state's equalization effort—rather than the extraordinary tax effort of poor districts—contributes to reducing funding gaps among districts.

In school year 1991-92, the Department of Education certified that four states—Alaska, Arizona, Michigan, and New Mexico—had equalized their finance systems.[43] With the data we now have available, we found that two of these states (Arizona and Michigan) had equalization efforts that were less than the national average of 62 percent. More importantly, the poor districts in three of the four states were making a greater tax effort than the wealthy districts, using the additional local funding raised to narrow even further or eliminate the funding gaps. (See table 4.4.)

Table 4.4: Poor Districts' Tax Efforts Relatively High in Certified States, School Year 1991-92

Certified state	Equalization effort[a]	Ratio of poor districts' tax efforts to wealthy districts' tax efforts[a]
Alaska	76.4%	1.55
Arizona	57.7%	2.57
Michigan	48.5%	0.81
New Mexico	85.0%	2.84

[a]Equalization effort and tax effort in this table were calculated on the basis of resident income per weighted pupil.

Conclusion

For many states, the main method for reducing or eliminating funding gaps will probably be an increase in the state share of total education funding, an increase in the state effort to target funding more specifically to poor

[43]Under the Impact Aid program, the Department of Education must certify whether a state meets a certain equalization level. If the state does, it may reduce state aid payments to offset the impact aid received by school districts.

districts, or an increase in both. The changes required would tend to be even greater if a state also sought to equalize tax effort among districts to alleviate poorer districts' making an extraordinary tax effort to raise the state average funding level per pupil. Even the most substantial state effort to improve funding equalization, however, may not reduce funding gaps unless it is accompanied by some constraints on local tax behavior. Where poor districts with a high tax effort use new state aid partly for tax relief and where wealthy districts replace reductions in state aid with increased local revenue, funding gaps may remain and in some cases even grow. Although the federal government has two policy tools that might further encourage greater funding equity, both reward states for funding outcomes that achieve a certain degree of equalization without considering the extent to which these outcomes may result from extraordinary local tax efforts in poor districts.

Conclusions, Matter for Congressional Consideration, and Agency Comments

Conclusions

Reducing or eliminating funding gaps between poor and wealthy school districts presents states and the federal government with difficult policy decisions. For states, the first difficult decision is who will bear most of the costs of reducing these funding gaps: the state government or wealthier school districts. The states' second decision involves whether their effort—which may be substantial—should be accompanied by constraints on local tax behavior. If so, states must decide which controls they can impose on localities. The less expensive alternatives are most likely to be controversial because they would severely restrict district tax choices and in many instances leave taxpayers in poor districts making a substantially greater tax effort than taxpayers in wealthy districts. Alternatives that would give taxpayers in poor districts some tax relief or allow school districts much greater freedom to choose their rates are also most likely to be controversial because they would require much more state money.

For the federal government, the first policy decision involves whether reduced funding gaps should continue to be the main focus of federal programs encouraging equalization or whether these programs should also focus on states' efforts to equalize funding between poor and wealthy districts. The second decision involves whether to increase targeting to poor students, knowing that such targeting can affect funding equalization.

The share of education funding a state finances compared with local funding and its effort to target that funding to poor districts determine a state's equalization effort. (See ch. 2.) The higher its share of total funding, the less a state needs to target that funding to poor districts to achieve a given equalization effort. The decision to increase the state funding share or the state targeting effort is difficult for most states because it addresses who will pay for increased equalization. A decision to increase the state funding share is a decision to fund equalization from state government resources. A decision to increase targeting effort is a decision to redistribute existing state funding from wealthier districts to poorer districts—in essence, having wealthier districts bear part of the cost to increase equalization. Where funding gaps are particularly great and the state funding share is relatively low, increased targeting might also involve redistributing local funding from wealthy to poor districts. Such recapturing can also be contentious.

In addition, reducing local funding and holding state funding steady would also increase equalization by increasing the state share of total funding. Although this action would effectively increase equalization effort, it

would also reduce total education funding in the state—which might have harmful effects.

States must also decide whether to control local tax behavior. Although a state might reduce funding gaps without such constraints, those reductions would not be certain. (See ch. 3.) Constraining local tax behavior may be controversial, however, because it means the state will partially control local choices on spending for education services and, in some cases, raise taxes. For example, mandating that all districts maintain their local effort would be the state's less costly option for reducing or eliminating funding gaps. (See ch. 4.) This choice, however, would keep poor districts with high tax efforts from using any new state funding to obtain even modest tax relief. By mandating an equal tax effort instead, states may be able to give tax relief to poor districts with high tax efforts, but this choice may raise taxes in many other, often wealthier, school districts. It also would be more costly for the state to implement. Options to maintain or to equalize local tax efforts would limit the funding districts could raise for education services as well.

The tax constraint option that allows the greatest degree of local choice involves the state setting a minimum tax effort. This option would be difficult to implement, however, because the statewide minimum effort must be at least equal to the tax effort of the state's wealthiest districts; a lower tax effort by poor compared with wealthy districts would exacerbate funding gaps. The state would have to regularly monitor district tax efforts statewide and, if necessary, raise the minimum effort to lessen the funding gaps.

For the federal government, the difficulty is determining whether federal programs encouraging equalization should continue to focus only on reduced funding gaps between poor and wealthy districts or whether these programs should also consider the extent to which state policies are responsible for reducing those gaps. Two federal programs with equalization components operate to effectively reward a state for reducing funding gaps even if the state has not made much effort to equalize funding. Some states with low funding gaps have accomplished this outcome in part through extraordinary taxpayer effort in the poorest school districts.

To encourage states to increase their equalization effort and reduce funding gaps among districts, federal policymakers could use both a performance indicator of state equalization effort and an indicator of

funding gaps to reward states for their performance. To encourage states to increase their equalization effort, regardless of its impact on funding gaps, federal policymakers could replace the performance indicator of a state's funding gap with one that measures only state efforts to equalize funding. In either case, a performance indicator of state equalization efforts used in combination with or instead of an indicator of funding gaps would better ensure that federal policy rewards those states whose funding policies lead to greater funding equity.

Matter for Congressional Consideration

If federal policymakers want to encourage greater state efforts to reduce funding gaps between poor and wealthy districts, then the Congress may wish to consider establishing additional incentives or incentives different from those that federal programs now have.

Agency Comments

The Department of Education provided written comments and suggested changes on a draft of this report (see app. VI). We revised our report on the basis of these comments and suggestions as they related to federal education programs when applicable.

The Department said that this report provides important information on how well state funding is targeted to poor school districts. In addition, the Department noted, as we have shown in an earlier report, School Finance: State and Federal Efforts to Target Poor Students (GAO/HEHS-98-36, Jan. 28, 1998), that federal funds are more targeted to poor students than state funds and that federal education funding plays an important role in improving equity. Department officials said, however, that a federal policy with financial incentives for encouraging states to equalize funds would probably be insufficient without a substantial increase in funding for the title I and Impact Aid programs. In addition, they said that such a policy pursued under title I Education Finance Incentive Grants would shift funds from high-poverty states to low-poverty states under the current formula.

We acknowledge that this redistribution of funds between states could occur under the current title I Education Finance Incentive Grant formula. In two previous reports, Remedial Education: Modifying Chapter 1 Formula Would Target More Funds to Those Most in Need (GAO/HRD-92-16, July 28, 1992) and School Finance: Options for Improving Measures of Effort and Equity in Title I (GAO/HEHS-96-142, Aug. 30, 1996), we provided suggestions to the Congress on how to improve targeting to states with high numbers of poor students. If those suggestions were adopted along

with a performance measure encouraging states to increase equalization effort as suggested in this report, better equalization could be encouraged with the result of more funding to high-poverty states.

Objectives, Scope, and Methodology

Objectives

The objectives of this study were to (1) determine what factors most contribute to reducing the size of funding gaps between poor and wealthy school districts, (2) identify states that substantially changed their school finance systems between 1991-92 and 1995-96 and determine the effects of the change on the funding gaps between wealthy and poor districts, and (3) determine what kinds of changes are needed for states to more fully address these funding gaps.

Scope

For the first and third objectives, we conducted a state-level comparative analysis of equalization efforts, the relative local tax efforts of poor and wealthy districts, and income-related funding gaps in all states except Hawaii for school year 1991-92.[44] The aggregate state-level data used in our analysis were based on state and local funding in regular school districts only, with students in grades kindergarten to 12.

Consequently, the state-level analyses excluded administrative districts and districts serving unique student populations, such as vocational or special education schools.[45] The analyses also excluded districts that lacked data for critical variables, such as poverty level, as well as small districts with extreme outlying values of income per pupil. The 2,235 districts excluded from the state-level comparative analysis had an enrollment of 335,558 students. The state-level database used in our analysis contains composite or aggregated data on 14,425 districts, with a total of 41,204,610 students, representing 99.2 percent of the students in 49 states.

For the second objective, we analyzed the school finance systems of four states: Kansas, Louisiana, Oregon, and Rhode Island. For each state, we analyzed how changes to state equalization policies and constraints on local tax efforts may have affected both the relative tax effort of poor and wealthy districts and the size of funding gaps from school years 1991-92 to 1995-96. Rather than basing the funding gaps discussed in this analysis on income, however, we calculated the gaps on the basis of the principal tax base measure employed in each state, which was property wealth in

[44]We excluded Hawaii from the analysis because our source of data was a database used for a previous report that conducted a district-level analysis. Hawaii's school system is considered one district, so no comparisons could be made about state allocations to different districts. Similarly, the District of Columbia and five U.S. territories (American Samoa, Guam, Northern Marianas, Puerto Rico, and the Virgin Islands) have one-district systems and were excluded from the database. The previous report using this database was School Finance: State Efforts to Reduce Funding Gaps Between Poor and Wealthy Districts (GAO/HEHS-97-31, Feb. 5, 1997).

[45]Districts in the Common Core of Data (CCD) with agency type codes 3 to 7 and school district codes of 4 to 7 were excluded from our analysis.

Kansas, Oregon, and Rhode Island and property and sales tax capacity in Louisiana.

Similar to the national state-level analysis, we analyzed state and local funding in the four states in regular school districts only, with students in grades kindergarten to 12. We excluded administrative districts and districts serving unique student populations from review. We also excluded districts that lacked data for critical variables. In Oregon and Rhode Island, districts were consolidated or newly created between school years 1991-92 and 1995-96, so the number of districts differed in the 2 years of our analysis. The final four-state database used in our analysis contained 302 districts in Kansas for both school years 1991-92 and 1995-96; 65 districts in Louisiana for both years; 286 districts in Oregon for school year 1991-92 and 230 for school year 1995-96; and 37 districts in Rhode Island for school year 1991-92 and 36 for school year 1995-96. The database represents 99.6 percent of the public school students in these four states.

Data Sources

This report used two sources of data. For the national state-level analyses, we used a database developed for a recent report.[46] The data were based mainly on revenue and demographic data obtained from the Department of Education's Common Core of Data (CCD) for the 1991-92 school year, the most current data available for a national set of districts. Data for the CCD were submitted by state education agencies and edited by the Education Department. Data for per capita income and population were obtained directly from the 1990 census because they were not available in the CCD. Some of the data in our database were obtained directly from state education offices, imputed, or adjusted on the basis of consultations with Department of Education experts. Missing cost index data were imputed on the basis of the recommendation of the school finance expert who developed the cost index, Jay Chambers. Missing income per pupil data were imputed using median housing value data.

To determine the funding changes made by the four states in our study and the effect of these changes on funding gaps, we obtained documentation directly from the states' departments of education or state legislative officials for each state's education finance system and revenue and demographic data for the years in our analysis.[47]

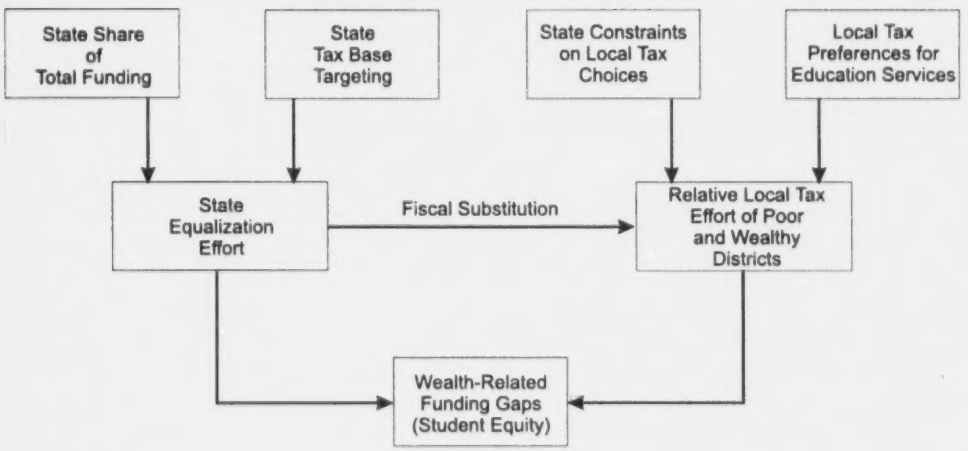
[46]GAO/HEHS-97-31, Feb. 5, 1997.

[47]Because school year 1991-92 poverty data for Oregon and Rhode Island school districts were not available from the state, we estimated the poverty rates using other data sources.

Methodology

Our national state-level analyses and our four-state case study analyses used the following funding model,[48] figure I.1, which outlines the relationships between funding gaps and the key factors affecting these gaps.

Figure I.1: Key Factors Affecting Funding Gaps


State Share of Total Funding
State Tax Base Targeting
State Constraints on Local Tax Choices
Local Tax Preferences for Education Services
State Equalization Effort
Fiscal Substitution
Relative Local Tax Effort of Poor and Wealthy Districts
Wealth-Related Funding Gaps (Student Equity)

The two key factors in the middle row (state equalization effort and relative local tax effort) influence funding gaps between wealthy and poor districts. Each of these in turn is determined by decisions made at the state or local level, represented by the top row of boxes. For example, state policies regarding the size of state shares and the amount of targeting to poor districts determine equalization effort. State (and local) policies that affect local district tax effort and the choice of district residents to tax themselves determine the relative local tax effort of districts.

To determine what factors contribute most to reducing funding gaps between poor and wealthy school districts, we used a minimum foundation equalization model (described in more detail in app. II). This model views each state as though it were distributing state funds according to a foundation program in which the state ensures a minimum

[48]This model summarizes the finding from one of our previous reports, GAO/HEHS-97-31, Feb. 5, 1997.

or foundation amount of funding per pupil with a common minimum local tax effort.

To identify states that had changed their finance system since school year 1991-92, targeting more funding to low-wealth districts, we reviewed the results of a telephone survey we conducted in 1996 in which we asked state education finance officials in 49 states about changes to the school finance system made between school years 1991-92 and 1995-96, the timing of the change, and a brief description of the change. We identified 28 states that had changed their finance system between school years 1991-92 and 1995-96.[49] Of those 28 states, we eliminated 24 for various reasons: some because we determined the state data were not sufficiently reliable or reforms were too limited in scope or too recent for us to measure the effects[50] or the reforms focused on targeting more funds to high-poverty rather than low-wealth school districts. Our final selection of Kansas, Louisiana, Oregon, and Rhode Island was intended to reflect differing approaches to reforming school finance systems as well as geographic differences.

To analyze the effects of funding changes in the four case study states, we used the same minimum foundation equalization model as in the national analysis of funding gaps. (App. III provides more information on our use of state data with this model.)

To determine what changes in state funding and tax base targeting policies would be needed to close the income-related funding gaps between poor and wealthy districts, we developed a mathematical model that relates state equalization effort and local tax policies to the size of the funding gaps. Our analysis estimates how much a state's share of total funding or targeting effort would have to increase to completely eliminate rather than just reduce funding gaps among districts. We conducted this analysis under alternative assumptions—assuming districts maintained school year 1991-92 tax effort or assuming districts were all making the same effort—regarding how states could constrain local tax policy if they were willing or able to do so. Appendix IV provides a more detailed explanation of the mathematical model used for this analysis.

[49]The 21 states that reported no change in their school finance system that targeted more funds to low-wealth or high-poverty districts between school years 1991-92 and 1995-96 were Alaska, Arizona, Arkansas, California, Delaware, Florida, Georgia, Illinois, Iowa, Kentucky, Maine, Nevada, New Hampshire, New Mexico, Oklahoma, South Carolina, South Dakota, Vermont, West Virginia, Wisconsin, and Wyoming.

[50]We reviewed only states that had changed their finance systems by school year 1993-94.

Estimating States' Tax Base Targeting and Equalization Efforts

This appendix summarizes how state equalization policies can be modeled using a foundation program. We used this model, which was developed for an earlier report,[51] to estimate the state tax base targeting and equalization efforts and income-related funding gaps used for the funding gap analysis in chapter 2.

Modeling Tax Base Targeting

In our earlier report, we modeled the distribution of state funding to local school districts as if states were ensuring that all districts could fund a minimum foundation amount per pupil with a common minimum tax effort.[52] Using this assumption, we showed that the distribution of state aid is represented by the following formula:

Equation II.1

$$\frac{g_i}{c_i\,\bar{g}} = \frac{1}{1-\beta\alpha} - \frac{\beta\alpha}{1-\beta\alpha}\left(\frac{v_i}{c_i\,\bar{v}}\right)$$

where

g_i = a district's per pupil state grant ($\bar{g}$ = state average per pupil grant)

c_i = a district's teacher cost index adjusted for statewide differences

v_i = a district's per pupil tax base ($\bar{v}$ = state average tax base per pupil)

α = share of total funding financed by local districts (1-α therefore represents the state share of total funding)

β = an equalization parameter that measures the extent to which state funding is targeted to low tax base districts.

Equation II.1 shows that a district's state grant per pupil ($g_i/c_i\bar{g}$) (adjusted for differences in teacher costs and expressed relative to the average grant

[51]See School Finance: State Efforts to Reduce Funding Gaps Between Poor and Wealthy Districts (GAO/HEHS-97-31, Feb. 5, 1997).

[52]The model we used was first developed by Jerry C. Fastrup, published in two separate articles: "Fiscal Equalization and Access to Educational Resources in the New England States," Journal of Education Finance, Vol. 22, No. 4 (1997), pp. 368-93 and "Taxpayer and Pupil Equity: Linking Policy Tools With Policy Goals," Journal of Education Finance, Vol. 23, No. 1 (1997), pp. 69-100.

of all districts) is inversely related to its per pupil tax base ($v_i/c_i\bar{v}$) (also adjusted for teacher cost differences and expressed relative to the average of all districts). It also demonstrates that all states can be viewed as ensuring a minimum foundation amount and that state aid is systematically related to the value of local tax bases. That is, states would have to target additional state funds to low tax base districts to ensure the minimum foundation amount in all districts.

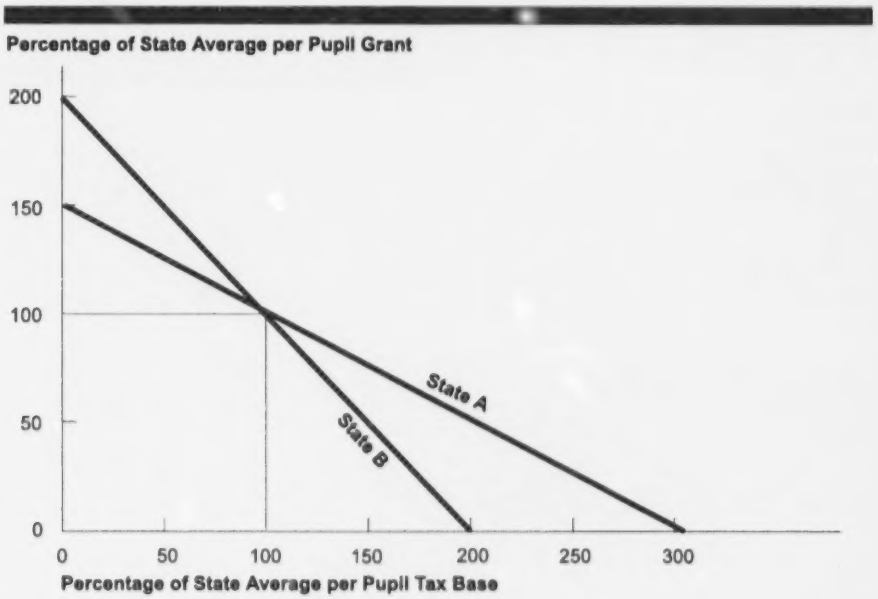
Because the dependent and independent variables are measured relative to their respective state averages, the slope coefficient can be interpreted as the tax base elasticity of state aid ($\epsilon_{g,v}$) evaluated at the mean. As such, it represents the percentage decline (or increase) in per pupil funding compared with the state average that a district would experience for each percentage increase (or decline) in its tax base compared with the average tax base of all districts. This elasticity quantitatively measures the state effort to target additional funding to low tax base districts. The following formula therefore represents elasticity of state aid:

Equation II.2

$$\text{State Tax Base Targeting Effort} = \epsilon_{g,v} = \frac{\beta\alpha}{1 - \beta\alpha}$$

Figure II.1 illustrates the tax base targeting implications of a foundation equalizing program. The figure compares two states that we assume to provide the same overall amount of aid to their local school districts; however, state A targets less aid to low tax base districts than does state B. Greater tax base targeting in state B implies higher per pupil grants to poor districts compared with state A and smaller per pupil funding in wealthier districts.

Figure II.1: Comparison of Two States With Different Tax Base Targeting Policies



Because of the greater tax base targeting in state B, the tax base levels at which wealthier districts would not qualify for state funding would be lower in state B compared with state A. As shown in figure II.1, wealthy districts in state B would not qualify for state aid if their per pupil tax base were more than 200 percent of the state average; in state A, however, wealthy districts would qualify for state funding as long as their tax base did not exceed 300 percent of the state average.

In principle, districts with tax base levels that exceeded these break-even levels would be subject to "recapture" provisions. That is, they would have to contribute part of their local revenues to the state government for distribution to other districts to ensure all districts could fund the foundation amount with a common minimum tax effort. In figure II.1, districts in state B whose tax base exceeded 200 percent of the state average would be subject to recapture provisions, while districts in state A would be subject to such provisions if their tax bases were more than 300 percent of the state average.

Minimum Foundation Level Depends on State Funding Share and the Tax Base Targeting

Given the relationship between state aid and local district tax bases in equation II.1, the following formulas show that the minimum foundation level and the minimum common tax effort depend on the state average per pupil funding level, the state share of total funding, and the tax base targeting elasticity of state aid:

Equation II.3

$$e^* = (1 - \alpha)\left(1 + \epsilon_{g \cdot v}\right)\bar{e} \quad \text{and} \quad t^* = \beta(1 - \alpha)\left(1 + \epsilon_{g \cdot v}\right)\bar{t}$$

where

e^* = minimum foundation amount per pupil

$1-\alpha$ = state share of total funding

$\epsilon_{g \cdot v}$ = tax base targeting elasticity, that is, the elasticity of state grant per pupil to district income per pupil

$\bar{e}$ = state average per pupil funding level

t^* = minimum common tax effort required of districts for financing the foundation amount per pupil

β = equalization parameter

$\bar{t}$ = average tax effort of all districts.

As the first formula in equation II.3 shows, the minimum foundation level that a state supports (e^*) is directly proportional to a state's average per pupil funding level ($\bar{e}$), the state share of total funding ($1-\alpha$), and the tax base targeting elasticity of state aid expressed as ($1+\epsilon_{g \cdot v}$). Therefore, the policy decisions states make regarding these two key parameters—state share of funding and tax base targeting—directly affect the amount of funding that states can support as a minimum foundation level in districts.

To help illustrate the relationship between the two key policy parameters and the minimum foundation level a state could support, we have compared two possible tax base targeting scenarios. Under the first scenario, we assume states provide equal per pupil grants to all districts adjusted for student needs and teacher costs. This implies a tax base targeting elasticity ($\varepsilon_{g,v}$) of 0 and, according to equation II.3, the foundation funding level would simply be the state share of the state's average per pupil funding level ($e^*=(1-\alpha)\bar{e}$).

Under the second scenario, we assumed states would provide the tax base targeting necessary to guarantee all districts the ability to fund the state average per pupil funding level with the same tax effort. According to the first part of equation II.3, if the foundation funding level is to equal the state average ($e^*=\bar{e}$), then it follows that $(1-\alpha)(1+\varepsilon_{g,v})=1$. Solving for the required tax base targeting elasticity ($\varepsilon_{g,v}$) reveals that the required amount of tax base targeting depends on the division of funding between the state and its local school districts as follows: $\varepsilon_{g,v} = -\alpha/(1-\alpha)$.

State Equalization Effort

The state average per pupil funding level represents the maximum foundation level a state could support given the total amount of state and local funding available for education in the state because providing all districts with an above average funding level would be impossible. Consequently, expressing the foundation level as a percentage of the state average provides a natural benchmark against which to measure a state's effort to equalize its per pupil funding. Given these considerations, we have defined a state's equalization effort as the portion of a state's average per pupil funding that a state implicitly supports as a (minimum) foundation level.[53] Dividing equation II.3 by the state average funding level yields the following formula for a state's equalization effort:

Equation II.4

$$\text{State Equalization Effort} = \frac{e^*}{\bar{e}} = (1-\alpha)\left(1+\varepsilon_{g^*,v}\right)$$

[53]We refer to this foundation level as "implicit" because it derives from information on the state's share of total funding and the tax base targeting elasticity that we estimated on the basis of the distribution of state aid.

Equation II.4 shows that a state's equalization effort equals its funding share ($1-\alpha$) adjusted by its tax base targeting effort ($1+\varepsilon_{gv}$). For example, some states distribute aid on an equal per pupil funding basis, that is, the state does not target additional funds on the basis of districts' tax bases. Because the tax base elasticity (ε_{gv}) of state aid would be 0 under these circumstances, the state's equalization effort would be equal to the state share of total funding ($1-\alpha$). In this case, with no tax base targeting, a state's equalization effort depends completely on its state share measured as the proportion of total (state and local) education funding the state provides. For example, assuming no tax base targeting, a state that financed half of all school funding would have an equalization effort of 50 percent, and a state that financed 70 percent of total funding at the state level would have an equalization effort of 70 percent.

Calculating States' Tax Base Targeting Efforts

Our measure of a state's effort to target additional funding to poor districts is the tax base elasticity of state aid, shown in equation II.2. We estimated this elasticity using equation II.1 with additional variables included to control for economies of scale and student needs. We adjusted both the dependent and independent variables for differences in geographic cost within each state and then put the variables into index form.[54] We used district income per pupil as a proxy for a district's ability to pay for education from local resources, rather than property wealth per pupil. Property wealth is the measure states most commonly use to determine a district's aid allocation. We used district income because we could not construct a property wealth per pupil measure from the national district-level databases available. In addition, beyond the school finance field, income—as opposed to wealth—is the most commonly accepted measure of the ability to raise revenue. The main limitation of the income component of our national analysis is its exclusion of commercial or nonresidential income, which may understate some districts' ability to raise revenue.

We weighted each observation by district size to better reflect the distribution of state funding to students rather than districts. We also adjusted for differences in resource costs by district, using a national district-level teacher cost index recently developed for the National Center for Education Statistics (NCES). This index was intended to measure differences in personnel-related costs. We did not apply the teacher cost adjustment to all district revenue, however. We applied the adjustment to

[54]To derive the index form of each variable, we measured all variables as district rates and then divided the district rate by its corresponding state average.

84.8 percent of current revenue estimated to relate to personnel costs, including salaries, fringe benefits, and some purchased services, because the remaining costs, such as books, materials, and supplies, tend not to vary as personnel costs do within a state.[55, 56]

State Equalization Efforts, Tax Base Targeting, and Funding Shares

Table II.1 provides state funding shares, tax base targeting elasticities, and equalization efforts, which we originally presented in another report and used for the analysis in chapter 2 of this report.

Table II.1: State Funding Shares, Tax Base Targeting, and Equalization Efforts, School Year 1991-92

State	State share of total funding[a] (percent)	State targeting effort[b] (percent)	State equalization effort[c] (percent)
Alabama	69.8	0	69.8
Alaska	76.4	0	76.4
Arizona	46.8	23.2	57.7
Arkansas	65.4	32.8	86.9
California	68.9	11.9	77.1
Colorado	43.5	75.3	76.2
Connecticut	38.8	43.0	55.4
Delaware	70.2	7.0	75.1
Florida	53.0	61.5	85.7
Georgia	54.6	24.2	67.8
Idaho	67.1	13.0	75.7
Illinois	33.2	23.0	40.9
Indiana	54.1	9.0	59.5
Iowa	49.0	10.4	54.1
Kansas	43.8	24.1	54.4
Kentucky	70.0	23.9	86.7
Louisiana	62.2	0	62.2

(continued)

[55]See Jay Chambers and William Fowler, Jr., Public School Teacher Cost Differences Across the United States, Department of Education, NCES, Analysis/Methodology Report, No. 95-758 (Washington, D.C.: Oct. 1995) and Stephen M. Barro, Cost of Education Differentials Across the States, Department of Education, NCES Working Paper No. 94-05 (Washington D.C.: July 1994). In using the 84.8 percent estimate, we assumed that all personnel costs, including noncertified personnel costs, have patterns of cost variation similar to certified personnel.

[56]See GAO/HEHS-97-31, Feb. 5, 1997.

State	State share of total funding[a] (percent)	State targeting effort[b] (percent)	State equalization effort[c] (percent)
Maine	49.4	28.7	63.6
Maryland	40.4	56.6	63.2
Massachusetts	30.8	31.6	40.6
Michigan	32.9	47.5	48.5
Minnesota	53.5	49.9	80.1
Mississippi	64.4	2.0	65.7
Missouri	44.6	1.7	45.4
Montana	44.2	12.6	49.8
Nebraska	34.3	24.6	42.8
Nevada	56.9	100.7	100.0
New Hampshire	8.3	57.1	13.1
New Jersey	43.1	10.4	47.6
New Mexico	85.0	0	85.0
New York	42.6	57.8	67.3
North Carolina	67.7	1.6	68.8
North Dakota	48.0	0	48.0
Ohio	41.9	18.0	49.4
Oklahoma	71.1	10.2	78.3
Oregon	31.1	4.3	32.5
Pennsylvania	43.0	25.5	53.9
Rhode Island	39.3	69.4	66.6
South Carolina	52.4	50.5	78.8
South Dakota	29.5	0	29.5
Tennessee	47.0	0	47.0
Texas	47.4	52.2	72.1
Utah	60.2	17.2	70.5
Vermont	29.0	53.9	44.7
Virginia	36.0	49.9	53.9
Washington	75.2	0.9	75.9
West Virginia	72.5	12.7	81.8
Wisconsin	46.2	27	58.6
Wyoming	52.5	0	52.5

(Table notes on next page)

[a]The state share of total (state and local) funding expressed as a percentage.

[b]State targeting is measured by the income elasticity of state funding, where district income represents the tax base per pupil. The income elasticity is the percentage difference in state funding resulting from a 1-percent change in district income. Because both independent and dependent variables are measured relative to their respective state averages, they represent percentage differences from the state averages. In this report, we multiplied the elasticity by 100 to measure the change in state funding from the state average funding level associated with a 100-percent change in tax base wealth from the state average tax base wealth. In calculating this score, we made adjustments for statewide differences in geographic and student need-related costs. A targeting effort of 23.2 percent, for example, means that a 100-percent increase in district income is associated with a 23.2-percent decline in state funding, where both changes are measured relative to their state average. An elasticity of 0 signifies no tax base targeting. All states' targeting efforts were constrained to be less than or equal to 0 because if the targeting effort score was positive, implying that wealthy districts received more state aid than poorer districts, we assert that these states did not target state funding to poorer districts.

[c]The equalization effort measures the proportion of the states' average funding level that state policies allow districts to finance with an equal tax effort.

Measuring of Income-Related Funding Gaps

To measure the size of the income-related funding gaps between districts, we calculated a fiscal neutrality score using the following regression model:

Equation II.5

$$\frac{e_i}{c_i n_i \bar{e}} = \beta_0 + \beta_1 \frac{v_i}{c_i n_i \bar{v}} + \epsilon_i$$

where

e_i = a district's total per pupil funding (state plus local)

$\bar{e}$ = state average per pupil funding

c_i = a district's teacher cost index

n_i = a district's student need index[57]

v_i = a district's income per pupil

$\bar{v}$ = average income per pupil of all districts

[57]See app. II in GAO/HEHS-97-31 for more explanation of these variables.

ε_i = random error term.

Because both the dependent and independent variables are measured relative to their respective state average values, the slope coefficient (β_1) can be interpreted as the tax base (income) elasticity of total funding—a state's fiscal neutrality score. A fiscal neutrality score of 0 indicates that, on average, per pupil funding is the same in wealthy as in poor districts and that no income-related funding gap exists. A positive fiscal neutrality score indicates that per pupil funding rises with local income, resulting in a funding gap. The larger the neutrality score, the larger the funding gap.

We used the above model to estimate fiscal neutrality scores for school year 1991-92 in another report.[58] (App. III of that report details the data and regression results.) Table II.2 shows the fiscal neutrality scores for each state.

Table II.2: State Fiscal Neutrality Scores, School Year 1991-92

State	Fiscal neutrality score[a]
Alabama	+.290
Alaska	-.272
Arizona	+.141
Arkansas	+.220
California	+.073
Colorado	+.154
Connecticut	+.241
Delaware[b]	+.072
Florida	+.239
Georgia	+.323
Idaho	+.247
Illinois	+.338
Indiana	+.153
Iowa[b]	+.031
Kansas[b]	+.014
Kentucky	+.126
Louisiana	+.216
Maine	+.176
Maryland	+.469
Massachusetts	+.447

(continued)

[58]GAO/HEHS-97-31, Feb. 5, 1997.

State	Fiscal neutrality score[a]
Michigan	+.290
Minnesota	+.113
Mississippi[b]	+.007
Missouri	+.362
Montana	+.393
Nebraska	+.154
Nevada	-.556
New Hampshire	+.238
New Jersey	+.168
New Mexico[b]	.004
New York	+.370
North Carolina	+.250
North Dakota	+.236
Ohio	+.315
Oklahoma	-.053
Oregon	+.166
Pennsylvania	+.300
Rhode Island	+.274
South Carolina	+.150
South Dakota	+.367
Tennessee	+.242
Texas[b]	+.003
Utah[b]	+.036
Vermont	+.176
Virginia	+.377
Washington	+.055
West Virginia[b]	+.071
Wisconsin	+.129
Wyoming[b]	-.196

[a]The fiscal neutrality score is a state's elasticity of total funding per weighted pupil relative to income per weighted pupil. A fiscal neutrality score of 0 indicates that, on average, per pupil funding is the same in wealthy as in poor districts and that no income-related funding gap exists. A positive fiscal neutrality score indicates that per pupil funding rises with local income, resulting in a funding gap. The larger the neutrality score, the larger the funding gap.

[b]Fiscal neutrality score is not statistically different from 0.

Appendix III

Data and Methods Used for the Case Study States

To determine the effects of changes in state equalization policies on funding gaps in our case study analysis, we used the same conceptual model to analyze state equalization efforts and funding gaps as we used in our broader national analysis reported in chapters 2 and 4. We used state-reported data, however, to calculate the key variables used in the analysis. This appendix describes how the tax base data we obtained from the states differ from the tax base data used in the national analysis and reports our estimates of the state share of total funding, state tax base targeting elasticities, and fiscal neutrality scores for school years 1991-92 and 1995-96. For comparison purposes, we also have provided these estimates as prepared for each state in a prior report,[59] in which we used resident income per pupil as the tax base measure.

Data Sources

Unlike our national analysis of funding gaps in school year 1991-92, which uses income per pupil as a proxy for district tax base wealth, our analysis of the four case study states uses each state's principal tax base measure to determine local revenue allocations for education in school years 1991-92 and 1995-96. We used this measure because we wanted to estimate each district's ability to raise revenue for education given existing state laws governing such efforts. Doing so yields tax base targeting elasticities based on each state's own concept of local tax wealth.

The tax base variable we used for Oregon was 100 percent of a district's market value of property. For Kansas, we used a district's assessed property value, which is a fraction of current market property values based on a constitutionally required property classification scheme. For Louisiana, we used the state's representative tax system, which combines property wealth and sales tax revenue to determine a district's tax capacity, for the tax base variable. Sales tax revenue represents the primary local source of education revenue in Louisiana. Finally, for Rhode Island, we used district equalized weighted assessed valuation (EWAV) for the tax base variable. EWAV represents assessed property value per pupil adjusted for differences in assessment practices among districts. Although the state further adjusts EWAV by each school district's median income, we used EWAV alone—without further adjustments—as the tax base of Rhode Island districts.

[59] School Finance: State Efforts to Reduce Funding Gaps Between Poor and Wealthy Districts (GAO/HEHS-97-31, Feb. 5, 1997).

Equity Measures

To analyze the effects of funding changes in the four case study states, we used the same minimum foundation equalization model used in the national analysis of funding gaps. We calculated the following measures for each of the four states for school years 1991-92 and 1995-96: state share of total funding, targeting effort, equalization effort, relative local tax effort, and funding gaps. We then measured the change in each variable between school years 1991-92 and 1995-96.

Tables III.1 and III.2 summarize the educational funding equity measures for the four case study states—Oregon, Kansas, Rhode Island, and Louisiana. These include measures of each state's equalization policies (state share of funding and state targeting effort), state equalization effort, tax effort of the poorest group of districts compared with the wealthiest group of districts, and the funding gap between poor and wealthy districts as measured by the fiscal neutrality score for school years 1991-92 and 1995-96. For comparison purposes, we have also provided these estimates as prepared for each state in a prior report (see footnote 59) in which we use resident income per pupil as the tax base measure. See table III.3.

Table III.1: Summary of Educational Funding Equity Measures, School Year 1991-92

State	State share of funding[a] (percent)	State targeting effort[b] (percent)	State equalization effort[c] (percent)	Poorest districts' tax effort compared with wealthiest districts'[d] (percent)	Funding gap between poor and wealthy districts[e] (percent)
Oregon	33	22	41	154	23
Kansas	42	11	47	181	10
Rhode Island	40	23	49	114	19
Louisiana	62	0	62	138	24

[a]State share of funding is the proportion of total funding (state and local combined) that is funded by the state.

[b]The state targeting effort is the elasticity of state funding per weighted pupil to district wealth per weighted pupil. In calculating this score, we adjusted for within-state differences in geographic and student need-related costs. A state targeting effort of 22 percent, for example, means that a district whose wealth is 100 percent greater than the state average would be expected to sustain a decline in state funding equal to 22 percent below the state average.

[c]The state equalization effort measures the proportion of the average funding level in the state that state policies—state share of total funding (state and local combined) and targeting effort—allow districts to finance with an equal tax effort.

[d]Poorest districts' tax effort compared with wealthiest districts' is a ratio of the local tax effort in a state's poorest districts to its wealthiest districts expressed as a percent. For both poorest and wealthiest districts, local tax effort is the total amount of local revenue raised by all districts within the group for every $1,000 of district wealth.

[e]The funding gap between poor and wealthy districts as measured by the fiscal neutrality score is the elasticity of total (state and local funding) funding to the district tax base. The fiscal neutrality score measures the extent to which education funding depends on district wealth. An elasticity of 0 implies that no funding gap exists (fiscal neutrality has been achieved) because no systematic differences exist in per pupil funding between wealthy and poor districts. A positive elasticity implies that total funding per weighted pupil is higher in wealthy districts than in poor districts. A funding gap of 23 percent, for example, means that a 100-percent increase in district wealth is associated with a total funding increase of 23 percent, where both changes are measured relative to the state average.

Table III.2: Summary of Educational Funding Equity Measures, School Year 1995-96

State	State share of funding[a] (percent)	State targeting effort[b](percent)	State equalization effort[c] (percent)	Poorest districts' tax effort compared with wealthiest districts'[d] (percent)	Funding gap between poor and wealthy districts[e] (percent)
Oregon	59	15	67	147	15
Kansas	59	35	79	133	8
Rhode Island	42	21	50	96	20
Louisiana	58	15	67	109	26

Note: See table notes for table III.1.

Table III.3: Summary of Educational Funding Equity Measures Using Resident Income per Pupil as the Tax Base Measure, School Year 1991-92

State	State share of funding[a] (percent)	State targeting effort[b] (percent)	State equalization effort[c] (percent)	Poorest districts' tax effort compared with wealthiest districts'[d] (percent)	Funding gap between poor and wealthy districts[e] (percent)
Oregon	31	43	33	162	17
Kansas	44	24	54	124	1[f]
Rhode Island	39	69	67	96	27
Louisiana	62	0	62	125	22

Note: See table notes b through e in table III.1.

[a]State share of funding is the proportion of total funding (state and local combined) that is funded by the state as reported in the CCD for the 1991-92 school year. Here we defined wealth according to income rather than property.

[f]The score is not statistically different from 0.

Methodology for Estimating State Policy Options for Eliminating Funding Gaps Between Poor and Wealthy Districts

This appendix describes the model we developed for analyzing changes in state equalization policies required to eliminate funding gaps between poor and wealthy districts. The model is designed to show how both the tax efforts of local school districts and state equalization policies affect the funding gap.

Local Tax Choices Affect Equity

Local school districts provide half of the funds for education, and therefore local taxing decisions affect student equity. In addition, state policy options affect equity for both students and local taxpayers.[60]

Student and Local Taxpayer Equity in the Absence of State Assistance

In the absence of state funding, schools would be funded exclusively with local revenues. Under this assumption, the level of funding available to a given school district would be the result of applying the local tax rate to the district's tax base as shown in equation IV.1:

Equation IV.1

$$e_i = t_i \cdot v_i$$

where

e_i = a district's per pupil funding

t_i = a district's local tax effort

v_i = a district's per pupil tax base.

This equation represents an "accounting identity" because the local tax rate, also referred to as tax effort, when multiplied by the district's tax base, yields the tax revenues the districts raise for educational purposes. For a given level of tax effort, a higher tax base generates proportionately more funding. Consequently, poorer districts must put forth proportionately greater effort to provide funding comparable with that of wealthier districts. Although poorer districts tend to make a greater tax effort, it is not proportionately greater. As a result, per pupil funding tends

[60] See Jerry Fastrup, "Taxpayer and Pupil Equity: Linking Policy Tools With Policy Goals," Journal of Education Finance, Vol. 23, No. 1 (1997), pp. 69-100, for the equalization model that serves as the basis for this methodology.

to relate to local districts' wealth.[61] One typical goal of state school finance systems is reducing and perhaps even eliminating the dependency of per pupil funding on local tax wealth.

A common measure of local funding's dependency on local wealth is the tax base elasticity of per pupil funding, also referred to as a fiscal neutrality coefficient. We chose to use the fiscal neutrality coefficient as our main indicator of student equity. Student equity is realized if the fiscal neutrality coefficient equals 0, signifying that per pupil funding does not relate to local wealth. Using the accounting identity in equation IV.1, we derived the following expression, which shows the relationship of student equity to differences in the tax effort of wealthy and poor districts:[62]

Equation IV.2

$$\text{Fiscal Neutrality Score} = \epsilon_{e \cdot v} = 1 + \epsilon_{t \cdot v}$$

where

$\epsilon_{e,v}$ = fiscal neutrality coefficient (that is, the tax base elasticity of per pupil funding)

$\epsilon_{t,v}$ = tax base elasticity of local tax effort.

This relationship shows that student equity, as measured by the fiscal neutrality coefficient ($\epsilon_{e,v}$), directly depends on the relationship between local tax effort and local wealth or tax base as measured by ($\epsilon_{t,v}$). A positive tax base elasticity of local tax effort signifies a higher tax effort by wealthy districts, while a negative elasticity signifies a higher tax effort by poor districts.

[61]If poor districts make the same or a lesser tax effort as wealthy districts, funding depends even more on local wealth.

[62]This expression can be derived by differentiating equation IV.1, noting that the tax rate is a function of the tax base. The elasticity is by definition (de/dv)(v/e).

State Equalization Policies Affect Equity for Students and Local Taxpayers

To weaken the dependence of per pupil funding on local wealth, states typically fund part of districts' educational expenses, with poorer districts generally receiving more state aid per pupil than wealthy districts. Targeting extra funding to poor districts helps to offset poorer districts' greater tax burden and thus provides greater equity for local taxpayers because state aid better equalizes the revenue yield (state and local funds combined) from comparable levels of tax effort by wealthy and poor districts.

The extra aid poor districts receive from the state, however, only improves student equity to the extent the districts use it to increase education funding rather than reduce local taxes. Consequently, assessing the effectiveness of a state's equalization effort in reducing funding gaps requires accounting for both local tax choices and state equalization policies.

Using the model from appendix II, we derived an expression for the fiscal neutrality coefficient (also referred to as the tax base elasticity of per pupil funding ($\epsilon_{e,v}$)). (See equation IV.3.) The fiscal neutrality coefficient can be expressed as a minimum equalized tax effort expressed as a percentage of the average effort of all districts in a state:

Equation IV.3

$$\epsilon_{e,v} = \alpha\left(1 + \epsilon_{t,v} - \frac{t^*}{t}\right)$$

where t^*/t depends on the state share of total funding and an equalization parameter (see equation II.2 in app. II). (Substituting that expression for t^*/t with some algebra will yield equation IV.4.)[63] This shows its relationship to both relative local tax effort and state equalization policies:

Equation IV.4

$$\epsilon_{e,v} = \alpha + \alpha\epsilon_{t,v} - (1 - \alpha)\epsilon_{g,v}$$

[63]Fastrup, "Taxpayer and Pupil Equity: Linking Policy Tools With Policy Goals," Journal of Education Finance, pp. 69-100.

where

ε_{cv} = a state's tax base elasticity of per pupil funding

α = the share of total funding financed by local school districts in a state

ε_{tv} = a state's tax base elasticity of local tax effort

$(1-\alpha)$ = a state's share of total funding

ε_{gv} = a state's tax base targeting effort (that is, the tax base elasticity of state aid per pupil).

Local Tax Policy Choices Determine Effect of State Equalization Policies on Student Equity

Equation IV.4 shows that student equity depends on a state's equalization policies (the state share of total funding $(1-\alpha)$ and the tax base elasticity of state aid (ε_{gv})). In addition, it shows that differences in the tax effort of wealthy and poor districts affect student equity through the tax base elasticity of local tax effort (ε_{tv}). State funding policy dampens the effect of the tax base elasticity of local tax effort, however, because the elasticity is now multiplied by the local share of total funding α. The smaller the local share, the smaller the effect of differences in local tax effort.

The local tax effort elasticity summarizes the relationship between local wealth and local tax effort that would prevail given a state's equalization policy. In the absence of state aid, the tax base elasticity of local tax effort (ε_{tv}) represented in equation IV.2 summarizes local districts' tax policy choices. With state aid, this elasticity reflects local district tax efforts after implementation of a state's equalization policy. It therefore reflects all changes in local districts' tax behavior made in response to a state's equalization policy.[64]

Because increases in a state's equalization effort will increase state funding for poor districts more than for wealthy districts, the likely effect will be a decreased tax effort by poor districts and possibly an increased effort by wealthy districts. This in turn will result in a larger (less negative) tax base elasticity of local tax efforts. Consequently, a state's increased equalization effort will not necessarily mean a reduced fiscal neutrality

[64]Before implementation, we would expect poorer districts to adopt higher tax rates than wealthier districts to help make up for their more limited tax bases. With the implementation of state aid, we would expect poor districts to use part of the aid they receive to reduce local tax rates and only part to increase education spending. This implies that the tax base elasticity of local tax effort would increase (become less negative) as a state increases its equalization effort.

coefficient if offsetting changes in local tax behavior increase the tax base elasticity of local tax effort. Changes in local tax efforts could, in principle, neutralize some or all of a state's increased equalization effort.

To guard against local districts' offsetting increased state funding, states may also adopt policies that constrain local tax behavior if states want their equalization policies to have the maximum effect on closing funding gaps between poor and wealthy districts.[65] Consequently, to use equation IV.3 to calculate changes in state equalization policies that will close funding gaps, we assumed that the tax base elasticity of district tax effort remained constant at a certain level when the state increased its equalization effort.

We developed two policy scenarios regarding the effect of increased state equalization effort on funding gaps; each scenario assumed a different, yet constant, tax base elasticity of district tax effort. The first scenario assumed the state placed constraints on local tax efforts so that the tax base elasticity of local tax effort remained the same as it was in school year 1991-92. To achieve this result, the state could mandate that all local districts either continue with the same tax rates they had in effect in that year or change their tax rates by the same proportion to maintain the same elasticity. This scenario would prevent poor districts with higher tax burdens from lowering their rates more than wealthy districts, ensuring that the additional state aid the poor districts received would yield more total funding per pupil relative to wealthy districts.

The second scenario assumed that the state required a statewide uniform tax effort from all districts and targeted state funding to guarantee all districts the same statewide per pupil funding amount. This scenario would guarantee both student equity (all districts would receive the same funding per weighted pupil) and equity for local district taxpayers (districts would receive the same amount of total funding per weighted pupil for the mandated tax effort).

[65]Two of the case study states provide evidence of offsetting changes in local tax behavior. Neither Rhode Island nor Louisiana restricted local tax choices, and in both states the gaps in local tax effort between wealthy and poor districts closed so much that each state's increased equalization effort failed to close the funding gaps between wealthy and poor districts (see tables 3.4, 3.5, and 3.6 in ch. 3).

Determining State Share and Targeting Assuming No Change in School Year 1991-92 Relative Local Tax Efforts

For this analysis, we calculated how 36 states could have changed their state equalization policies to eliminate their funding gaps, assuming that districts maintained their school year 1991-92 tax efforts. We selected these 36 states because their total funding favored wealthy districts in the 1991-92 school year. Specifically, each state met the following two criteria: (1) the state's school year 1991-92 fiscal neutrality score was positive, indicating that total funding increased as district income increased,[66] and (2) the state's school year 1991-92 tax base elasticity of tax effort was greater than –1.0.[67] In 11 of these 36 states, wealthier districts made greater tax efforts than poorer districts, contributing to larger funding gaps. In the remaining 25 states, poorer districts made a greater tax effort; however, funding gaps persisted due to poorer districts' smaller tax bases even with their greater effort.[68]

To conduct the analysis, we first determined the state share of education funding that would have eliminated the gap given the state's school year 1991-92 tax base targeting effort. Next, we determined the tax base targeting effort that would eliminate the funding gap, given the state's share of funding in school year 1991-92. Our analyses resulted in the minimum share of funding and the minimum targeting effort each state would have to achieve to eliminate the funding gap given the relative local tax effort of districts in school year 1991-92.

Calculating State Share

To determine the state share of funding in school year 1991-92 needed to close funding gaps if the differences in the tax efforts of wealthy and poor districts were constrained to their school year 1991-92 levels, we set the expression for fiscal neutrality (equation IV.4) equal to 0 and solved for the required state funding share to obtain equation IV.5:

[66]We did not estimate the policy changes needed to close funding gaps in the 12 states that did not have a statistically significant fiscal neutrality score (Delaware, Iowa, Kansas, Mississippi, New Mexico, Texas, Utah, West Virginia, and Wyoming) or had negative scores (Alaska, Nevada, and Oklahoma), which indicated that funding already favored the poorer districts.

[67]When a state's tax base elasticity of local tax effort is less than or equal to –1.0, the tax effort by poor districts is so high compared with wealthy districts that this effort alone could eliminate funding gaps even if the state had provided no state funding at all. Using this criterion eliminated another state, California, from this analysis.

[68]If school year 1991-92 state targeting efforts ($\varepsilon_{g,x}$) were positive, implying wealthy districts received more state aid than poorer districts, we constrained the value of this variable to 0, asserting that these states do not target state funding to poorer districts.

Equation IV.5

$$1 - \alpha = \frac{(1 + \epsilon_{t \cdot v})}{(1 + \epsilon_{t \cdot v} - \epsilon_{g \cdot v})}$$

Next, we calculated the state share of funding given school year 1991-92 values for the tax base elasticities of local tax effort ($\epsilon_{t \cdot v}$) and state aid ($\epsilon_{g \cdot v}$). Table IV.1 shows the results of our computations.

Table IV.1: State Funding Share Needed to Close the Funding Gap in School Year 1991-92, Assuming States Constrained Local Tax Effort to 1991-92 Levels With 1991-92 Tax Base Targeting Policies

State	1991-92 relative local tax effort[a]	1991-92 state share of education funding[b] (percent)	State share needed to close the gap[c] (percent)	Actual share as a percentage of required share
U.S. median	-.235	48	71	67
Alabama[d]	.027	70	100	70
Alaska[d]	-.808	76	76[c]	100
Arizona	-.468	47	70	67
Arkansas	-.243	65	70	94
California	-1.028	69	69[c]	100
Colorado	-.381	44	45	96
Connecticut	-.066	39	68	57
Delaware	-.235	70	70[c]	100
Florida	.234	53	67	79
Georgia	.007	55	81	68
Idaho	.011	67	89	76
Illinois	-.179	33	78	43
Indiana	-.511	54	83	65
Iowa	-.772	49	49[c]	100
Kansas	-.448	44	44[c]	100
Kentucky	.274	70	84	83
Louisiana[d]	-.237	62	100	62
Maine	-.172	49	74	67
Maryland	.164	40	67	60
Massachusetts	.077	31	77	40
Michigan	-.031	33	67	49
Minnesota	-.104	54	64	83
Mississippi	-.267	64	64[c]	100

(continued)

State	1991-92 relative local tax effort[a]	1991-92 state share of education funding[b] (percent)	State share needed to close the gap[c] (percent)	Actual share as a percentage of required share
Missouri	-.018	45	98	45
Montana	-.469	44	81	55
Nebraska	-.430	34	70	49
Nevada	-1.252	57	57[c]	100
New Hampshire	-.370	8	52	16
New Jersey	-.203	43	88	49
New Mexico	-1.776	85	85[c]	100
New York	.076	43	65	66
North Carolina	.052	68	99	69
North Dakota	-.451	48	100	48
Ohio	-.276	42	80	52
Oklahoma	-.473	71	71[c]	100
Oregon	-.393	31	93	33
Pennsylvania	-.023	43	79	54
Rhode Island	.045	39	60	65
South Carolina	-.194	52	61	85
South Dakota[d]	-.164	30	100	30
Tennessee[d]	-.709	47	100	47
Texas	-.234	47	47[c]	100
Utah	-.734	60	60[c]	100
Vermont	-.333	29	55	53
Virginia	.096	36	69	52
Washington	-.277	75	99	76
West Virginia	-.230	75	75[c]	100
Wisconsin	-.160	46	76	61
Wyoming	-1.645	53	53[c]	100

[a]To measure a state's relative local tax effort, we estimated the income elasticity of local tax effort. For each state, this elasticity measures the percentage change in local tax effort associated with a 1-percent increase in district income per weighted pupil. As measured this way, the greater the elasticity, the greater the tax effort in wealthy districts compared with poor districts.

[b]State share of education funding is the percentage of total (state and local) education funds that are state funds.

[c]These states had already closed the funding gap or had funding that favored poor over wealthy districts or had a tax base elasticity of tax effort less than or equal to -1.0. Therefore, no change in their state share was necessary.

[d]In calculating the state share of education funding required to close the funding gap, we constrained the tax base targeting effort in these states to 0.

Calculating Tax Base Targeting

Assuming that states' tax base elasticities of tax effort were constrained to their school year 1991-92 levels, we determined how much states would have to increase their targeting effort to poorer districts—rather than increase the state share of total funding—to close funding gaps. To determine the state targeting effort needed to close the funding gap, we set the fiscal neutrality score in equation IV.4 equal to 0 and assumed states prevented districts from changing local tax efforts and solved for the tax base targeting policy that would eliminate local funding gaps:

Equation IV.6

$$\epsilon_{g \cdot v} = \left(\frac{\alpha}{1 - \alpha}\right)(1 + \epsilon_{t \cdot v})$$

Next, we calculated the state tax base targeting elasticity given values for a state's school year 1991-92 local share of total funding (α) and tax base elasticity of local tax effort ($\epsilon_{t \cdot v}$). Table IV.2 shows the results of our computations.

Table IV.2: State Tax Base Targeting Effort Needed to Close the Funding Gap in School Year 1991-92 Assuming States Constrained Local Tax Efforts to 1991-92 Levels With 1991-92 State Funding Shares

State	1991-92 relative local tax effort[a]	1991-92 tax base targeting effort[b] (percent)	Tax base targeting effort required to close the gap[c] (percent)	Actual as a percentage of required
U.S. median	-.235	23	73	33
Alabama[d]	.027	0	44	0
Alaska[d]	-.808	0	0[e]	Not applicable
Arizona	-.468	23	61	38
Arkansas	-.243	33	40	82
California	-1.028	12	12[e]	100
Colorado	-.381	75	80	94
Connecticut	-.066	43	148	29
Delaware	-.235	7	7[e]	100
Florida	.234	62	109	56
Georgia	.007	24	84	29
Idaho	.011	13	50	26
Illinois	-.179	23	165	14

(continued)

State	1991-92 relative local tax effort[a]	1991-92 tax base targeting effort[b] (percent)	Tax base targeting effort required to close the gap[c] (percent)	Actual as a percentage of required
Indiana	-.511	10	41	24
Iowa	-.772	10	10[c]	100
Kansas	-.448	24	24[c]	100
Kentucky	.274	24	55	44
Louisiana[d]	-.237	0	46	0
Maine	-.172	29	85	34
Maryland	.164	57	172	33
Massachusetts	.077	32	242	13
Michigan	-.031	48	198	24
Minnesota	-.104	50	78	64
Mississippi	-.267	2	2[c]	100
Missouri	-.018	2	122	1
Montana	-.469	13	67	19
Nebraska	-.430	25	109	23
Nevada	-1.252	101	101[c]	100
New Hampshire	-.370	57	695	8
New Jersey	-.203	10	105	10
New Mexico	-1.776	0	0[c]	Not applicable
New York	.076	58	145	40
North Carolina	.052	2	50	3
North Dakota[d]	-.451	0	60	0
Ohio	-.276	18	101	18
Oklahoma	-.473	10	10[c]	100
Oregon	-.393	4	134	3
Pennsylvania	-.023	25	130	20
Rhode Island	.045	69	162	43
South Carolina	-.194	51	73	69
South Dakota[d]	-.164	0	200	0
Tennessee[d]	-.709	0	33	0
Texas	-.234	52	52[c]	100
Utah	-.734	17	17[c]	100
Vermont	-.333	54	163	33
Virginia	.096	50	195	26
Washington	-.277	1	24	4

(continued)

State	1991-92 relative local tax effort[a]	1991-92 tax base targeting effort[b] (percent)	Tax base targeting effort required to close the gap[c] (percent)	Actual as a percentage of required
West Virginia	-.230	13	13[c]	100
Wisconsin	-.160	27	98	28
Wyoming	-1.645	0	0[c]	Not applicable

[a]To measure a state's relative local tax effort, we estimated the income elasticity of local tax effort. For each state, this elasticity measures the percentage change in local tax effort associated with a 1-percent increase in district income per weighted pupil. As measured this way, the greater the elasticity, the greater the tax effort in wealthy districts compared with poor districts.

[b]The tax base targeting effort is the income elasticity of state funding per weighted pupil to district income per weighted pupil. A targeting effort of 23 percent, for example, means that a doubling in district income is associated with a 23-percent decrease in state funding, where both changes are measured relative to their state average.

[c]These states had already closed the funding gap or had funding that favored poor over wealthy districts or had a tax base elasticity of tax effort less than or equal to -1.0. Therefore, no change in their targeting effort was necessary.

[d]The tax base targeting effort for these states was constrained to 0.

Determining State Share and Targeting Required to Eliminate the Funding Gap When Districts Make the Same Local Effort

This scenario calculated how states could have used state equalization policies to eliminate their funding gaps, assuming that poor and wealthy districts made the same local tax effort. In this analysis, we found that all 49 states would need to change their equalization policies to eliminate the funding gap and allow for an equal local tax burden. First, we determined the state share of education funding that would eliminate the gap given the state's school year 1991-92 tax base targeting effort. Next, we determined the tax base targeting effort that would eliminate the funding gap given the state's share of funding in school year 1991-92. Our analyses resulted in the minimum share of funding and the minimum targeting effort each state would have to achieve to eliminate the funding gap given that all districts were making the same local tax effort.

Calculating State Share

To determine the state share of funding needed to close the funding gap with an equal tax effort from local districts, we set the fiscal neutrality score and the tax base elasticity of local tax effort in equation IV.4 equal to 0 and solved for the state share. This yielded the following relationship

between the state share (1-α) and the tax base targeting elasticity of state aid ($\epsilon_{g,v}$):

Equation IV.7

$$(1 - \alpha) = \frac{1}{(1 + \epsilon_{g,v})}$$

The state shares that would close funding gaps with the tax base targeting policies in effect in school year 1991-92 appear in table IV.3.

Table IV.3: State Funding Share Needed to Close the Funding Gaps in School Year 1991-92 and Equalize Local Tax Burdens With 1991-92 Tax Base Targeting Policies

State	1991-92 tax base targeting effort[a] (percent)	1991-92 state share of education funding[b] (percent)	State share needed to close funding gap (percent)	Actual as a percentage of required
U.S. median	23	48	81	63
Alabama[c]	0	70	100	70
Alaska[c]	0	76	100	76
Arizona	23	47	81	58
Arkansas	33	65	75	87
California	12	69	89	77
Colorado	75	44	57	76
Connecticut	43	39	70	55
Delaware	7	70	93	75
Florida	62	53	62	86
Georgia	24	55	81	68
Idaho	13	67	89	76
Illinois	23	33	81	41
Indiana	10	54	91	59
Iowa	10	49	91	53
Kansas	24	44	81	54
Kentucky	24	70	81	87
Louisiana[c]	0	62	100	62
Maine	29	49	78	64
Maryland	57	40	64	63
Massachusetts	32	31	76	41
Michigan	47	33	68	49

(continued)

State	1991-92 tax base targeting effort[a] (percent)	1991-92 state share of education funding[b] (percent)	State share needed to close funding gap (percent)	Actual as a percentage of required
Minnesota	50	54	67	80
Mississippi	2	64	98	66
Missouri	2	45	98	45
Montana	13	44	89	50
Nebraska	25	34	80	43
Nevada	101	57	50	114
New Hampshire	57	8	64	12
New Jersey	10	43	91	47
New Mexico[c]	0	85	100	85
New York	58	43	63	68
North Carolina	2	68	98	69
North Dakota[c]	0	48	100	48
Ohio	18	42	85	49
Oklahoma	10	71	91	78
Oregon	4	31	96	32
Pennsylvania	25	43	80	54
Rhode Island	69	39	59	67
South Carolina	50	52	66	79
South Dakota[c]	0	30	100	30
Tennessee[c]	0	47	100	47
Texas	52	47	66	72
Utah	17	60	85	71
Vermont	54	29	65	45
Virginia	50	36	67	54
Washington	1	75	99	76
West Virginia	13	73	89	82
Wisconsin	27	46	79	59
Wyoming[c]	0	53	100	53

[a]The tax base targeting effort is the income elasticity of state funding per weighted pupil to district income per weighted pupil. A targeting effort of 23 percent, for example, means that a doubling in district income is associated with a 23-percent decrease in state funding, where both changes are measured relative to their state average.

[b]State share of education funding is the percentage of total (state and local) education funds that are state funds.

[c]The tax base targeting effort for these states was constrained to 0.

Calculations for Targeting Effort

Assuming that all districts are making the same local tax effort, we determined the tax base targeting effort needed to close the funding gaps given the states' share of total funding in school year 1991-92. Solving equation IV.4 for the tax base elasticity of state aid yielded the tax base targeting effort ($\epsilon_{g,v}$) that would eliminate funding gaps with equal tax burdens in poor and wealthy districts given the state share of total funding:

Equation IV.8

$$\epsilon_{g,v} = \frac{\alpha}{1 - \alpha}$$

Table IV.4 shows the required tax base targeting elasticity using school year 1991-92 state funding shares.

Table IV.4: State Tax Base Targeting Effort Needed to Close the Funding Gap in 1991-92 and Equalize Local Tax Burdens With 1991-92 State Funding Shares

State	1991-92 state share of education funding[a] (percent)	1991-92 tax base targeting effort[b] (percent)	Tax base targeting needed to close funding gap (percent)	Actual as a percentage of required
U.S. median	48	23	108	19
Alabama[c]	70	0	43	0
Alaska[c]	76	0	31	0
Arizona	47	23	114	20
Arkansas	65	33	53	62
California	69	12	45	26
Colorado	44	75	130	58
Connecticut	39	43	158	27
Delaware	70	7	42	17
Florida	53	62	89	69
Georgia	55	24	83	29
Idaho	67	13	49	26
Illinois	33	23	201	11
Indiana	54	10	85	12
Iowa	49	10	104	10
Kansas	44	24	128	19
Kentucky	70	24	43	56
Louisiana[c]	62	0	61	0

(continued)

State	1991-92 state share of education funding[a] (percent)	1991-92 tax base targeting effort[b] (percent)	Tax base targeting needed to close funding gap (percent)	Actual as a percentage of required
Maine	49	29	102	28
Maryland	40	57	148	38
Massachusetts	31	32	224	14
Michigan	33	47	204	23
Minnesota	54	50	87	57
Mississippi	64	2	55	4
Missouri	45	2	124	1
Montana	44	13	126	10
Nebraska	34	25	191	13
Nevada	57	101	76	133
New Hampshire	8	57	1103	5
New Jersey	43	10	132	8
New Mexico[c]	85	0	18	0
New York	43	58	135	43
North Carolina	68	2	48	3
North Dakota[c]	48	0	108	0
Ohio	42	18	139	13
Oklahoma	71	10	41	25
Oregon	31	4	221	2
Pennsylvania	43	25	133	19
Rhode Island	39	69	155	45
South Carolina	52	50	91	55
South Dakota[c]	30	0	239	0
Tennessee[c]	47	0	113	0
Texas	47	52	111	47
Utah	60	17	66	26
Vermont	29	54	244	22
Virginia	36	50	178	28
Washington	75	1	33	3
West Virginia	73	13	38	34
Wisconsin	46	27	117	23
Wyoming[c]	53	0	90	0

(Table notes on next page)

[a]State share of education funding is the percentage of total (state and local) education funds that are state funds.

[b]The tax base targeting effort is the income elasticity of state funding per weighted pupil to district income per weighted pupil. A targeting effort of 23 percent, for example, means that a doubling in district income is associated with a 23-percent decrease in state funding, where both changes are measured relative to their state average.

[c]The tax base targeting effort for these states was constrained to 0.

Combined State Share and Targeting Effort Required to Eliminate Funding Gaps

States can choose to eliminate the funding gap between wealthy and poor districts by increasing both their state share of education funding and improving targeting to poorer districts. In general, the greater the state share of education funding, the less states have to target to poorer districts to eliminate the gap. Likewise, the lower the state share of education funding, the greater the state's targeting effort to poor districts must be to eliminate the funding gap.

We calculated the targeting effort required to eliminate the funding gap given a range of state share options—from 5 percent of total education funding to 95 percent of total funding. We calculated these options assuming that poor and wealthy districts would make the same tax effort. The results represent the maximum equalization effort any state could achieve. In reality, states could make less of an equalization effort, depending on their policy goals.[69]

To calculate the targeting effort required to eliminate the funding gap and ensure that poor and wealthy districts bear the same tax effort, we used equation IV.7. In solving this equation, we found that the targeting effort required to eliminate the funding gap is the local share of total funding divided by the state share of total funding: $\alpha/1-\alpha$. We then generated a range of local and state funding ratios to derive the targeting effort, as shown in table IV.5.

[69]For example, a state could choose to reduce the income-related funding gap by a specified amount, rather than eliminate it entirely. It also could choose to eliminate the funding gap without fully equalizing the tax effort between poor and wealthy districts. In both cases, states could fund a lower state share and targeting effort than our analysis shows.

Table IV.5: Tax Base Targeting Required to Eliminate the Funding Gaps for a Range of State Funding Shares When Tax Effort Is Equal Among Districts

State share of education funding[a] (percent)	Required tax base targeting effort[b] (percent)	Tax base break-even point[c] (percent)
95	5	2,000
90	11	1,000
85	18	667
80	25	500
75	33	400
70	43	333
65	54	286
60	67	250
55	82	222
50	100	200
45	122	182
40	150	167
35	186	154
30	233	143
25	300	133
20	400	125
15	567	118
10	900	111
5	1,900	105

[a]State share of education funding is the percentage of total (state and local) education funds that are state funds.

[b]The tax base targeting effort is the income elasticity of state funding per weighted pupil to district income per weighted pupil. A targeting effort of 23 percent, for example, means that a doubling in district income is associated with a 23-percent decrease in state funding, where both changes are measured relative to their state average.

[c]This is the proportion of the state average district tax base wealth per pupil at which a district would qualify for no state aid. Above this cutoff point, to maintain the given targeting effort and eliminate funding gaps, districts would be expected to remit some proportion of locally raised revenue to the state for redistribution to poorer school districts.

Officials Interviewed for Case Studies

To conduct our case studies, we interviewed the listed officials associated with the following organizations, which included associations, boards, departments, school districts, and legislatures:

Kansas

- Kansas State Department of Education—Deputy Commissioner
- Kansas State Board of Education—Member
- Kansas Association of School Boards—Director, Government Relations
- Kansas Legislative Research Department—Director
- Kansas United School Administrators—Executive Director
- National Education Association, Kansas Regional Office—Field Representative

Louisiana

- Louisiana Department of Education—Deputy Superintendent for Education Management and Finance, Administrative Director for Bureau of Educational Finance Services, Administrative Assistant for Bureau of Educational Finance Services
- St. Martin Parish School District—Director, Curriculum and Instruction
- West Baton Rouge Parish School District—Superintendent of Schools
- Louisiana Board of Elementary and Secondary Education—Member, 1st District
- Louisiana House of Representatives—Aid, House Appropriations Committee
- Louisiana School Boards Association—Director for School Finance
- Louisiana State University—Professor, Education Administration

Oregon

- Oregon Department of Education—Coordinator, School Finance and Data Information Services; Research Analyst
- Oregon School Board Association—Director
- Oregon Confederation of School Administrators—Director, Oregon School Services
- Oregon Legislative Revenue Office—Director, Former Aid
- Oregon Education Association—Director

Rhode Island

- Rhode Island Department of Elementary and Secondary Education—Commissioner, Director of Finance
- Rhode Island Governor's Office—Policy Director, Education Issues
- Rhode Island State House—Vice Chairman, General Assembly House Finance Committee

- Rhode Island Association of School Committees—Executive Director
- Rhode Island Public Expenditure Council—Executive Director, Policy Analyst

Comments From the Department of Education

UNITED STATES DEPARTMENT OF EDUCATION

THE DEPUTY SECRETARY

MAY - 1 1998

Ms. Carlotta C. Joyner
Director
Education and Employment Issues
General Accounting Office
Washington, D.C. 20548

Dear Ms. Joyner:

Thank you for providing the Department of Education with the opportunity to comment on the draft report School Finance: Evaluating State Efforts to Equalize Funding Between Wealthy and Poor School Districts (GAO/HEHS-98-92). The report provides important information on how well state funding is targeted to poor school districts.

The report indicates that State funding tends to fall short of equalizing funding per pupil across school districts. Federal education funding plays an important role in improving equity. As GAO noted in its report School Finance: State and Federal Efforts to Target Poor Students (GAO/HEHS-98-36), Federal funds are more targeted on poor students than State funds. Since poor students tend to be located in poor school districts, Federal funds help equalize funding between districts.

Additional comments, which are designed to help clarify and correct some statements in the report, are enclosed. We hope these comments are useful and would be happy to discuss them further if you wish.

Sincerely,

Marshall S. Smith
Acting

Enclosure

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Staff Acknowledgments

Virginia Vanderlinde was the evaluator-in-charge, directing overall analysis, cowriting the report, and supervising the Rhode Island site visit. Nancy Purvine supervised the review of the four case study states and site visits to Kansas and Oregon and cowrote the report. Peter Bylsma supervised the Louisiana site visit. Stan Stenersen, reports analyst, helped the team conceptualize and communicate the message.

Glossary

Categorical Aid	In this report, educational support funds from the state to local districts that are earmarked for a specific purpose.
Elasticity	The percentage change in one variable relative to a 1-percent change in another variable.
Equalization	In this report, a state's effort to compensate for differences in districts' abilities to raise education revenues.
Equalization Effort	A measure of a state's share of education funding and the way the state targets this funding to its districts on the basis of district wealth. It measures the proportion of the state's average funding level that a state's school finance system enables all districts to finance with an equal tax effort.
Equity	Equity in school finances involves the distribution of education funding or resources. To determine the equity of school finance systems, experts recommend considering the following four issues: (1) who benefits (taxpayers or public school students); (2) what objects are equally distributed, such as revenues or key resources (for example, curriculum and instruction) or outcomes (for example, student achievement); (3) what principle is used for determining whether distribution is equitable (such as vertical equity or fiscal neutrality); and (4) the statistic used to measure the degree of equity.
Fiscal Neutrality	In a state, a definition of equity that asserts that no relationship should exist between district spending per pupil and district wealth per pupil such as income or property wealth.
Fiscal Neutrality Score	In a state, the elasticity of district total (state and local) funding relative to district wealth. A fiscal neutrality score of 0 indicates that no relationship exists between district funding and district wealth.
Fiscal Substitution	In this report, a situation in which a local school district substitutes new state grant dollars for its own locally generated education revenue. It can

	also refer to replacement of lost grant revenue with new locally generated funds.
Recapture	A feature in state education aid formulas in which local districts that raise an amount of revenue per pupil in excess of the amount allowed by the state must pay that excess to the state for redistributing to poorer districts.
Tax Effort	In this report, the relationship between a district's taxable wealth (based on property value or income) and the amount of local tax revenues raised for education.

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